



digital success
programme

DIGITAL STARTUP STRATEGY OF HUNGARY

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Greeting

Digitalisation is one of the most important driving forces of economic competition, national development and social wellbeing. Smart governance and government administration wish to be an active participant of national development in order to take advantage of its benefits and minimise its disadvantages by all means. Therefore, the Hungarian Government wants to give impetus to digital transformation, ensuring that all Hungarian citizens and enterprises should benefit from that change of historic proportions.

In Hungary, the digital economy accounts for 20 % of the gross value added (GVA) of the national economy as a whole, employing nearly 15 % of all employees. In terms of the weight of the digital economy within the national economy, Hungary is among the leaders in the European Union. While that advantage may be increased by conscious measures, it may even disappear as a result of the fierce global competition for resources of the digital economy, i.e. skilled manpower.

Since digital economy may be an opportunity for growth for the Hungarian national economy, well-thought-out, comprehensive (startups, ICT businesses etc.) development projects are of key importance. The declaration of will by citizens during the national consultation campaign on the Internet and digital development projects (InternetKon) of the Government reinforced that awareness as the citizens' response was clear and unambiguous that the digital development of Hungarian businesses must be given extra support in order to improve the competitiveness of Hungarian ICT businesses as well as of small and medium-sized enterprises using infocommunication devices and services.

On the basis of the results of the InternetKon, the Government has drawn up the Digital Success Programme in order to facilitate the digital development of Hungarian society and the Hungarian national economy. The Digital Startup Strategy of Hungary, drawn up as part of the Programme, formulates the Government's vision of Hungarian digital enterprises up to 2020. First and foremost, it prefers a system of regulation that is flexible and open toward the changes involved by new technologies, recognising the competitive advantage of the ability to respond rapidly in the global economy.

With the Digital Startup Strategy of Hungary, the Government aims at supporting and espousing the Hungarian startup ecosystem as a whole. Based on determining startups' objective and perceptual limits of growth, the strategy has identified policy, development policy and regulatory instruments constituting a balanced system, better suited to the actual needs, life-cycle and growth potential of startup companies.

Its overall strategic objective is to ensure a balanced development of the startup ecosystem by strengthening entrepreneurship, entrepreneurial competencies and the culture of

cooperation, developing a supportive business environment and making available sources of financing in a targeted manner. Such measures are taken in order to enable that the beneficial effects of the establishment and development of innovative businesses with a substantial potential for growth contribute to the international competitiveness of the Hungarian national economy.

I am convinced that by implementing the Digital Startup Strategy of Hungary, the Budapest startup ecosystem, which has achieved a great deal in recent years in the fields of economy, culture and community-building, may become one of Europe's most decisive startup hubs.

Dr Tamás Deutsch
Commissioner of the Hungarian Prime Minister
Digital Success Programme

Executive summary

Digital startups are typically micro or small enterprises with a high growth potential, relevant even on the global market. Based on innovative products, organisations, business models or services within the digital economy, they are in need of external financing.

Most rapidly growing startup companies **transfer an existing service into the digital space**, thus reaching a higher number of users more efficiently than the existing non-digital solution. **B2B startups** that deliver industrial solutions bring about a similar change in terms of the business model, work organisation and sales techniques of large companies or entire industries or commercial sectors. Due to that characteristic, **startups are established in all sectors of the economy** as all traditional sectors have services that can be transferred into and operated more efficiently in the digital space.

Since startup companies are a complex phenomenon related to the entrepreneurial culture of the digital community, the term ‘startup’ is difficult to identify by taxation law and statistical terms. Based on international examples, rather than attempting to identify startup companies in an inevitably arbitrary manner, this strategy applies the distinction ‘**early-stage businesses**’ in order to identify the group of companies regarded as ‘startups’.

Why the need for a startup strategy

Relatively small, very **fast-growing and innovative startup companies, producing for the global market from the first day** of their operation, abound in one of the most dynamic and most innovative segment of the Hungarian economy. Such businesses, typically focusing on infocommunication technologies (ICT), that have mushroomed in recent years, are far more than a mere subcultural phenomenon. They are the building blocks, concomitant phenomena as well as the drivers of a much more extensive global phenomenon and economic paradigm shift.

An overwhelming part of startups are part of the **digital economy** from the beginning. In Hungary, the digital economy currently accounts for **more than 20 % of the GDP, employing nearly 15 % of all employees**. As the digital economy may be an opportunity for growth for the Hungarian national economy, its well-designed development covering all areas, including the startup ecosystem, is of key importance.

Typically aiming to enter the global market, startup companies with a high growth potential tend to add new and innovative products, services or business models to the development of the digital economy, which may also **catalyse** digital development projects by Hungarian SMEs and large companies falling into the INDUSTRY 4.0 category.

While successful startups have a substantial **boosting effect on the economy** in themselves, they also have a significant indirect **rippling effect** by improving the culture of

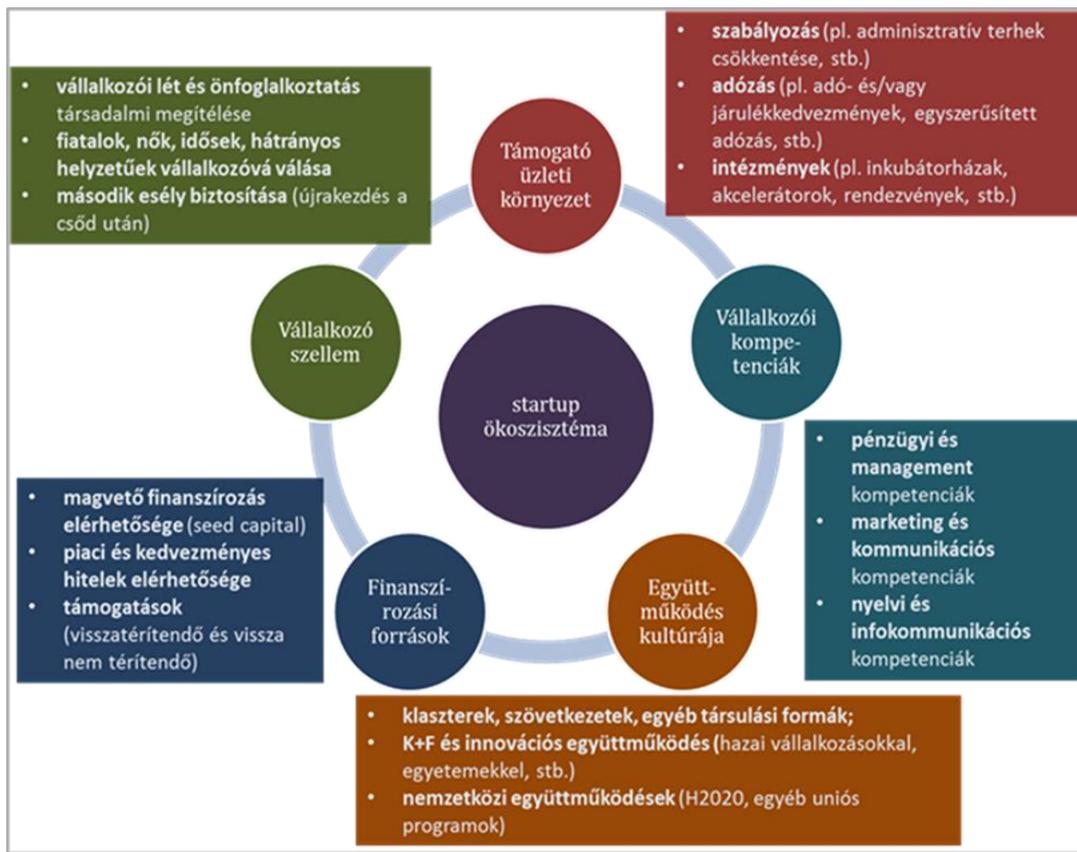
entrepreneurship, the country's international profile, its attractiveness as a tourist destination and its **ability to attract foreign investors and capital investment**.

Developing the Hungarian startup ecosystem is therefore important for the following reasons:

- such businesses represent one of the most rapidly growing group of companies all over the world, just as in Hungary, which is an indication of the **economic growth-stimulating potential of digital startups**;
- while influencing growth in their respective sectors, technological companies **transform all traditional industries**;
- the development of the startup ecosystem helps **domestic talent to realise their potential** and build their businesses at home;
- a lot of new segments are still in the emerging phase, just as the infrastructure of the digital economy is still being built and developed. In a number of areas, almost all countries/regions are starting from scratch, i.e. the **country is not lagging decades behind**. The Hungarian ecosystem can get off to a good start, laying the foundations for future economic growth.

The Digital Startup Strategy of Hungary(DSS) focuses on the ecosystem as a whole, based on the following main points:

- **Entrepreneurship**
- **Entrepreneurial competencies**
- **The culture of cooperation**
- **Supportive business environment**
- **Sources of financing**



Támogató üzleti környezet	Supportive business environment
<ul style="list-style-type: none"> • szabályozás (pl. adminisztratív terhek csökkentése, stb.) • adózás (pl. adó- és/vagy járulékkedvezmények, egyszerűsített adózás, stb.) • intézmények (pl. inkubátorházak, akceleratorok, rendezvények, stb.) 	<ul style="list-style-type: none"> • regulation (e.g. reducing administrative burdens etc.) • taxation (e.g. tax and/or contribution allowances, simplified taxation etc.) • institutions (e.g. business incubators, accelerators, events, etc.)
Vállalkozói kompetenciák	Entrepreneurial competencies
<ul style="list-style-type: none"> • pénzügyi és management kompetenciák • marketing és kommunikációs kompetenciák • nyelvi és infokommunikációs kompetenciák 	<ul style="list-style-type: none"> • financial and management competencies • marketing and communication competencies • linguistic and infocommunication competencies
Együttműködés kultúrája	The culture of cooperation
<ul style="list-style-type: none"> • klaszterek, szövetkezetek, egyéb társulási formák; • K+F és innovációs együttműködés (hazai vállalkozásokkal, egyetemekkel, stb.) • nemzetközi együttműködések (H2020, egyéb uniós programok) 	<ul style="list-style-type: none"> • clusters, cooperatives and other forms of partnership; • R&D and innovation cooperation (with Hungarian businesses, colleges etc.) • international cooperation (H2020 and other Union programmes)
Finanszírozási források	Sources of financing
<ul style="list-style-type: none"> • magvető finanszírozás elérhetősége (seed Capital) • piaci és kedvezményes hitelek elérhetősége • támogatások (visszatérítendő és vissza nem térítendő) 	<ul style="list-style-type: none"> • availability of seed capital • availability of market-based and privileged loans • grants (both repayable and non-repayable)
Vállalkozó szellem	Entrepreneurship
<ul style="list-style-type: none"> • vállalkozói lét és önfoglalkoztatás társadalmi megítélése • fiatalok, nők, idősök, hátrányos helyzetűek vállalkozóvá válása • második esély biztosítása (újrakezdés a csőd után) 	<ul style="list-style-type: none"> • perception of entrepreneurs and self-employed persons • young people, women and disadvantaged persons becoming entrepreneurs • providing a second chance (resuming after bankruptcy)
startup ökoszisztéma	a startup ecosystem

This document sets out the Digital Startup Strategy for Hungary, by no means for Budapest only. However, in all countries worldwide, a substantial startup ecosystem typically develops in large cities as such metropolises are the only places where the capital, knowledge and highly skilled young workforce required for the rapid growth of digital enterprises, of a global nature since their birth, are available in sufficient concentration. However, in a properly functioning startup ecosystem, provincial universities, research bases and talents

also play an enormous role. All successful startup cities have innumerable links with such provincial university knowledge centres.

Situation analysis

While the term ‘startup ecosystem’ has gained increasing currency in recent years, no comprehensive analysis covering all elements of the ecosystem surrounding startup companies has been drawn up so far. The existing programmes have been restricted to a particular element of the startup ecosystem (incubation, launch on the market, attracting venture capital etc.), lacking an integrated situation assessment and strategy to cover all factors of the ecosystem from the public education system to the development of entrepreneurial competences to restrictive factors associated with the business environment.

This strategy therefore aims at setting out **public policy, development policy and regulatory instruments**, based on determining startups’ objective and perceptual limits of growth, which **constitute a balanced system**, better suited to the actual needs, life-cycle and growth potential of startup companies.

SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • A favourable geopolitical location. • Hungary is thoroughly embedded in the global economy. • A relatively high-level of research infrastructure. • A dynamically improving meet-up culture in Budapest. • Dynamic urban life; Budapest is an attractive location for young entrepreneurs. • Events lining up Hungarian and foreign presenters meeting international standards; a dynamic meet-up culture. 	<ul style="list-style-type: none"> • High administrative burdens. • The taxation environment has a negative effect on the propensity to invest. • Up to 2017, no tax allowance was available to encourage investments by business angels. • The conditions of self-employment are complicated and have a deterring effect. • The group of persons qualifying for privileges/participation is typically set too narrow or in a too complicated manner under programmes granting privileges. • There are few diversified co-working offices providing a range of services outside Budapest; there are few accelerators integrated into the

<ul style="list-style-type: none"> • Satisfactory level of training in engineering, economics, design and arts/social sciences. • Ease of setting up a business. • Existing preferential taxation schemes. • Satisfactory level of university education in a number of fields (IT, engineering, economics, design etc.). • The number of female entrepreneurs exceeds the EU average. • An increasing proportion of the Y generation are willing to go self-employed; being self-employed is becoming increasingly attractive for them. • Since 2011, the number of capital placements has increased at a dynamic rate. • Sufficient capital is available for startup development. (Its distribution and the access to capital are, however, not necessarily satisfactory.) 	<p>international circulation.</p> <ul style="list-style-type: none"> • Young persons' competences lag behind the EU average (based on the OECD's survey). • Low level of linguistic competences. • Low quality of financial culture. • Non-public-education solutions are too Budapest-centred and too expensive. • Low awareness of innovation and the protection of intellectual property. • The focus of career advisors is overtly restricted to multinational and large companies. • Few teachers have entrepreneurial competences, while there is no relevant training for teachers. • Entrepreneurship is low in Hungary in a global comparison. • The fear of failure is high whereas the willingness to take risks is low. • There are few young entrepreneurs. • Successful entrepreneurs are still underrepresented in mass media and have only become role models for a small group of people. • Entry to the international market is difficult. • The lack of university partnerships reinforces the lack of market cooperation among young graduates. • There is a minimum level of cooperation between large Hungarian companies and startups. • The financing of both early-stage startups and scale-up companies is unresolved. • Most EU grants are only available in
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	<p>provincial regions and they often include restrictions that may distort the business model of startups.</p> <ul style="list-style-type: none"> • There are few entrepreneurs with international experience and there are few experienced and successful investors.
Opportunities	Threats
<ul style="list-style-type: none"> • The digital economy is currently being built up, i.e. Hungary is still not lagging years behind. • Adopting international models of ecosystem development. • Emphasising role models extensively; reinforcing positive media feedback. • Developing programmes in order to attract foreign startups and expertise to Hungary. • Building the culture of entrepreneurship at an early age. • Developing new tools for efficient incubation (e.g. open labs & tech shops). • Successful entrepreneurs will feed their skills back to the new generation. • Taking advantage of the 'Entrepreneurship 2020' Action Plan of the EU. • Collaboration among businesses and development institutions/institutions possessing infrastructure will lead to new innovative 	<ul style="list-style-type: none"> • The best experts leave the country while Budapest is not attractive enough for foreign startup entrepreneurs to settle there. • There are years of gaps between each global Hungarian startup success story; there are only a few new role models. • There is increasing global competition among big cities to attract the best creatives, programmers and entrepreneurs. • There are no close links between stakeholders of the ecosystem and government decision-makers. • The educational system has been unable to catch up with the challenges of the 21st century; there is an increasing shortage of skilled experts. • The educational curriculum still lacks training for the entrepreneurial spirit, which widens the gap and curbs entrepreneurship. • People with low education and income may drop even more behind, i.e. social inequalities may increase. • A weak entrepreneurial spirit resulting from cultural traditions has not changed, while the perception of the ecosystem

<p>development projects.</p> <ul style="list-style-type: none"> • Increasing role of the economic role of (industry) clusters. • Cooperation between cities and local communities. • Living Labs • The Hungarian ecosystem becoming more international. • Adopting development models related to international financing patterns. • By filling in gaps in the financing infrastructure, businesses will have fast access to capital and be able to grow quickly. • The activities of some well-known business angels are becoming apparent (e.g. Power Angels and the Hungarian Business Angel Network). • New government capital programmes are to be launched in the near future, which will also be available in Budapest, while most of them will be used for early-stage financing. 	<p>has not improved.</p> <ul style="list-style-type: none"> • Demand for college courses is unable to meet the expectations of businesses vis-à-vis higher education on the output side. • As the European market is not expected to grow less fragmented, it is more difficult to grow big within the EU than in the US. • Startups fail to choose the right sources of financing, which distorts their development and reduces the number of sustainably growing startup companies. • Due to the system of grants, a lot of startups have specialised in competing for government grants. • The ratio of international capital remains negligible, i.e. the startup ecosystem will remain deficient in terms of foreign resources (networking, know-how). • Hungarian startups will skip the Hungarian ecosystem, building up their businesses abroad from the beginning unless they find Hungarian investors sufficiently experienced and/or their conditions sufficiently attractive.
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Vision

Technological development destroys, upsets and transforms entire sectors of the economy. While changing economic mechanisms, it exerts a serious influence on the structure of society. That evolution, however, offers possibilities apart from the dangers. A responsible, flexible and modern regulator is able to identify both at the same time, creating opportunities by turning a challenge into an advantage.

The Digital Startup Strategy of Hungary formulates the Government's vision of Hungarian digital startup enterprises up to 2020. First and foremost, it prefers a system of regulation that is flexible and open toward the changes involved by new technologies, recognising the

competitive advantage of the ability to respond rapidly in the global economy.

Between them, the small size of the Hungarian market and the low entry threshold for digital enterprises have the result that **Hungarian businesses targeting global markets from the start will have a better chance of growing big**. Such companies should therefore be given priority in terms of financing.

Moreover, it is important to keep in mind that while successful startup companies grow fast, they are therefore also **vulnerable**. The strategy sets out a **realistic vision**. Billion-dollar business emporia being built up from Budapest is not the sole indicator of success. Success also includes a fast-growing Hungarian startup being bought up by a larger company after a while, and a new group of entrepreneurs emerging, who have acquired their wealth through their own resources and are responsible for their environment. As role models for a new generation, they may contribute to the **development of the culture of entrepreneurship**. Similarly, it is an important achievement if certain very fast-growing startups later become small or medium-sized enterprises that keep on growing more conservatively yet at a steady rate while keeping creating new jobs.

The ecosystem, as the name suggests, is a system made up by numerous stakeholders. In the digital Hungary of 2020, such stakeholders will not be individual actors who have met by chance as, by that time, there will have emerged those channels between **universities and accelerators, Hungarian and foreign investors, municipal governments and startups** that are indispensable in order to make Budapest and Hungary attractive for the most talented startup entrepreneurs worldwide.

At this very moment, dozens of countries are investing massive amounts of energy into implementing visions similar to the above, not sparing time or money. We are in a competition. The Digital Startup Strategy of Hungary aims at providing an opportunity to be at the cutting edge.

System of tools and objectives

The **overall strategic objective** is to ensure a balanced development of the startup ecosystem by strengthening entrepreneurship, entrepreneurial competencies and the culture of cooperation, developing a supportive business environment and making available sources of financing in a targeted manner in order to enable that the beneficial effects of the establishment and development of innovative businesses with a substantial potential for growth contribute to the international competitiveness of the Hungarian national economy.

There are **two horizontal instruments supporting the achievement of the comprehensive strategic objective**:

- **The DSS Action Plan** aiming to put the measures of the strategy into operation, break

them down by persons in charge and deadlines and accurately determine the activities required for their implementation.

- **The Startup Hungary Centre for Methodology and Coordination**, responsible for breaking down the measures of the strategy into action plans and coordinating the parties involved in their implementation. A horizontal centre that bridges piers, it ensures and supports the coordinated and integrated implementation of the system of instruments.

Objectives and instruments for each pier:

The comprehensive objective of the **Supportive business environment** pier is to ensure that **the business environment should support, rather than hinder, the establishment**, entry to the market and development of startup companies in a targeted manner. To that end, the following instruments have been identified by the strategy under the pier:

Pier: Supportive business environment	Group of instruments: 1. Improving the regulatory environment of startups
Proposed instrument	Target
Reducing the social security burden of business starters	Encouraging becoming a full-time entrepreneur by reducing the tax and social security burdens related to employment.
Supporting the resumption of operation (faster liquidation of businesses)	Facilitating the circumstances of resumption by reducing paper-based activities related to the termination of companies left over from unsuccessful attempts at running a business and by simplifying the liquidation procedure.
Option to acquire a business share and preferential taxation of exchange gain achieved on the sale of business shares for private individuals	Creating the opportunity for offering and selling business shares and stocks simply and at a preferential tax rate in order to facilitate fast-growing startups, which have not yet achieved steady growth, to attract good-quality workforce and to retain their workers.
Setting up a Special Economic Zone (SEZ)	Initially vulnerable startups that have a large growth potential yet require a longer research and development phase should evolve in a congenial regulatory environment.
Extensive communication of government programmes and grant opportunities	Exploiting existing government grant opportunities in a more efficient manner.
Avoiding duplication	Completely eliminating or minimising duplication within the system of institutions.

In the meaning of the comprehensive objective of the **Entrepreneurship pier**, the **social perception of entrepreneurs must be improved**, persons belonging to communities disadvantaged in terms of entrepreneurship must be assisted in becoming entrepreneurs, and an entrepreneurial approach must be reinforced and risk-taking and the assumption of responsibility must be encouraged at all levels of education. Awareness of being an entrepreneur or self-employed must be promoted in all groups of society, presenting it as a realistic alternative.

Pier: Entrepreneurship	Group of instruments 2. Improving the perception of entrepreneurship by society
Proposed instrument	Target
Supporting female entrepreneurs/co-founders	There should be more targeted programmes and campaigns to help women become entrepreneurs and thus increase the ratio of women among entrepreneurs (too).
Raising the awareness of potential offered by innovative digital technologies (data technology, Big Data, IoT, Cloud etc.) among would-be entrepreneurs	Underpinning the necessity of developing digital competences, presenting their potential and developing digital competences. Digital Education Strategy of Hungary (DES) sets out measures concerning the latter, on all levels of the educational system.
Making the lifestyle of entrepreneurs attractive within the educational system	Strengthening both school and out-of-school activities aiming to present entrepreneurial lifestyles and introducing trainings, thematic weeks etc. to strengthen the entrepreneurial spirit at the public education, vocational training, higher-education and adult education systems, including in particular: <ul style="list-style-type: none"> • emphasising role models extensively; • placing an increased emphasis in the media on the benefits of being an entrepreneur; • presenting inspiring success stories through role models.
Improving the image of starting over at running a business	Awareness-raising with a view to improving the image of starting over.

(Since certain objectives and tools of Entrepreneurship overlap with measures of the Supportive business environment and the Entrepreneurial competencies piers, they are set out in detail in those two chapters.)

The overall objective of the Entrepreneurial competencies pier is to ensure that no startup company should be squeezed out of the startup ecosystem due to a lack of entrepreneurial competencies.

Pier: Supportive business environment	Group of instruments: 3. Developing entrepreneurial competencies
Proposed instrument	Target
E-training – Programme for developing entrepreneurial competencies	To reach and support the widest possible age group and group of interested persons with a view to developing the appropriate and necessary competencies.
Entrepreneurship HUBs of Hungary	To integrate, on a national level, and to provide support to existing or future training centres specialising in developing entrepreneurial competencies.
National E-skill Development Tools	Public-domain, quality-controlled educational materials for the development of entrepreneurial skills.
Train the Trainer	Providing up-to-date information to trainers involved in the complex training programme so they can efficiently develop entrepreneurial competencies.
Platform for entrepreneurial competency development	Establishing an appropriate platform for autonomous groups providing the best practical method for the development of entrepreneurial competencies.

Regarding the Culture of cooperation pier, the overall objective is to achieve that

- as many Hungarian businesses as possible should realise that various forms of cooperation represent a substantial reserve in terms of competitiveness;
- clusters as well as inter-institutional and interdisciplinary relations should improve both within Hungary and across the border;
- Hungarian involvement should increase in major R&D&I projects and tenders implemented in international cooperation;

- the highest possible number of Hungarian startups should reach global startup and business hubs and as many global technology companies should open development and training centres in Hungary as possible.

Pier: The culture of cooperation	Group of instruments: 4. To strengthen the links between Hungarian SMEs and large companies and between public administration and startups
Proposed instrument	Target
Opening of public data on a strategic level	Achieving a legislative and technological environment enabling that public data are shared with startups simply and rapidly.
Industry 4.0 startup – ecosystem development programme	With a view to strengthening the Hungarian industrial startup community sensitive to digital innovation, new business models should be created on the basis of the technological platform of large companies in key segments of Hungarian industry with a global reach.
Pre-commercial procurement (PcP)	To enable the purchasing of innovative solutions under public procurement projects by broadening the scope of pre-commercial procurement schemes.
Spinoff incentive programme	Organising the innovative ideas of SMEs and the professional teams of large companies into spinoff businesses.
5. Attracting foreign startups to Hungary	
Proposed instrument	Target
Startup Budapest Programme	Encouraging foreign startup companies and entrepreneurs to move to Hungary ('reverse brain drain').
Startup visa	To facilitate foreign entrepreneurs' residence in Hungary, and thus promote the relocation of foreign companies to Hungary. The aim is to attract as many talented entrepreneurs as possible to establish companies and create value in Hungary.
6. Promoting Hungarian startups abroad	
Proposed instrument	Target

Silicon Valley inspiration programme	Getting Hungarian startups acquainted with Silicon Valley's startup ecosystem, best practices and requirements with a view to achieving a similar level of success.
Programme to support presence in the Silicon Valley	Facilitating and supporting the presence of Hungarian startups in the Silicon Valley.

The overall objective of the **Sources of financing** pier is to ensure the availability of **sufficient funding for startup companies** at various stages of their lifecycles from private investors, credit institutions and refundable and non-refundable government/EU financing. In that context, it is indispensable that the distribution of government funds should function in a fast and transparent manner (coordinated with global trends) and that such government funds should reinforce motivation, ensuring that applicant companies seek financing for an existing project idea rather than the other way round.

Pier: Sources of financing	Group of instruments: 7. Encouraging angel investments
Proposed instrument	Target
Encouraging angel investments through tax allowances	The kind of legislation to be created should provide sufficient incentive in order to multiply the number of angel investments in Hungary.
Co-investment scheme to accompany angel investment	The impact of angel investment is multiplied if the government tops up the investment in accordance with a co-investment scheme.
	8. Upskilling programme for investors
Proposed instrument	Target
Upskilling programme for investors	Further training and upskilling for angel investors and venture capital investors investing in startups.

1. Introduction

1.1. Inspiration and mandate

Section 6(a) of Government Decree No 2012/2015 (XII. 29.) on the Digital Success Programme calls upon the Prime Minister's Commissioner for coordinating and implementing the Digital Success Programme (DSP) to draw up and submit to the Government, in cooperation with the Minister of National Economy, the Ministry of National Development and the Minister of Human Capacities, the Digital Startup Strategy for the development of an innovative business environment (startup ecosystem) in Hungary.

While there have been various initiatives by the government, NGOs and businesses in recent years in order to reinforce the startup ecosystem, these programmes have typically focused on individual elements of the startup ecosystem (e.g. incubation, market launch, attracting venture capital etc.), there has been no integrated situation assessment and strategy to cover all factors of the startup ecosystem. That gap may be filled by the Digital Startup Strategy of Hungary, drawn up under the Digital Success Programme (DSP).

Based on determining Hungarian startups' objective and perceptual limits of growth, the strategy strives to identify policy, development policy and regulatory instruments constituting Aim a balanced system, better suited to the actual needs, life-cycle and growth potential of startup companies.

In parallel with the startup strategy, various other strategic documents have been drawn up in the framework of the DSP, several of which have links with the startup ecosystem:

- **Digital Education Strategy of Hungary (DES)** sets up conditions for digital transformation on all levels of the educational system: from public education to vocational training to higher education to adult education. The strategy's point of departure is that there is much more to digital education than supporting conventional education with digital tools, i.e.:
 - a whole new attitude;
 - new pedagogical methodologies;
 - new learning methods;
 - the traceability of the learning cycle;
 - the emergence of an open educational environment that responds to the challenges of the digital age.
- **Digital Export Development Strategy of Hungary (DEDS)**, which aims at achieving an intensive, high added-value digital product export increase through development policy instruments in order to

- create a high number of high added-value jobs that are attractive also to young persons;
- encourage digital innovation;
- exert a modernising influence on the economy;
- promote the implementation of the Irinyi Plan and thus improve the country's competitiveness; through exploiting Hungarian knowledge and innovation, to improve Hungary's international perception.

1.2. Definition and interpretation

One of the characteristics of the term 'startup company' is that, due to its novelty, it is difficult to define or categorise. While the title of this strategy includes the 'digital' adjective, it could easily be omitted as today, the activity of most startups is closely linked with digitalisation, i.e. they will often specialise in transforming an existing activity, service or business model in an innovative manner, using digital devices and services. There is a different kind of startup companies that, while not operating directly in the digital space, are equally characterised by employing innovative solutions, fast scalability and the intensive use of infocommunication tools and services, just as in the case of the first group of digital startups.

Obviously, startup companies are not restricted to micro enterprises specialising in infocommunication services. Often, they are closely associated with the creative industry, the arts, applied arts or design. A separate segment of the startup ecosystem includes B2B startup companies that, whether they arrive from design or infocommunication, play a decisive role in renewing traditional industries, strengthening their competitiveness and in their digital transformation. Therefore, **there is no real justification for the distinction 'digital' vs. 'non-digital'**. (Moreover, in the future, all enterprises will be 'digital' to some extent, which will render that distinction irrelevant in the first place.)

1.2.1. Defining 'startups'

Due to the novelty of the field and the nature of the businesses concerned, the term 'startup' is rather difficult to define. There is no single definition that is equally accepted by all. In economic terms, their definition is particularly problematic since that category of businesses is currently unknown in both statistics and taxation law. If, however, one chooses to get to grips with the difficulties of definition and come up with a concise definition, it is worth getting to know the opinions accepted by most.

Let's see the best-known definition first. According to Silicon Valley serial entrepreneur and academic **Steve Blank**, *'a startup is a temporary organization searching for a repeatable and scalable business model'*.

The international consultancy company **PwC** gives the following definition for startup: *'Startups are high-growth companies with high risks and an uncertain outcome: while they hold out the promise of high profits, they experiment with new ideas, products, business models and markets, which means that, statistically, most startups will fail, as there is fierce competition on that market, where circumstances keep changing at a fast rate. In terms of their size and legal form, there are no hard-and-fast formats of startup companies.'*

In a study commissioned by the government, the **Entrepreneurship Foundation Hungary** defines the concept as follows: *'Startup means a new company with a high growth potential or a project team starting the process of becoming a business and preparing entry to the market.'*

In his textbook, **János Vecsenyi**, Professor Emeritus of Corvinus University of Budapest, who works for the Small Enterprise Development Centre that is part of the Enterprise Development Institute, defines a 'gazelle', the equivalent of a startup, as follows: *'Gazelles are dynamic, fast-growing and particularly vulnerable enterprises. Gazelle companies tend to start small yet think big from the start, i.e. the founding entrepreneurs envisage a large company. The rate of growth of gazelles is twice that of the industry average. That fast growth, however, makes these businesses particularly vulnerable.'*

It can be seen that the international and Hungarian definitions agree that startups are typically micro or small enterprises with a high growth potential and in need of external financing, based on innovative products, organisations, business models or services that are relevant even on the global market. While the activity of 'digital startups' is closely linked to the digital economy, since this is practically true of all startup companies, the term 'digital' will hereinafter be omitted as an adjective of startups.

1.2.2. Definition by the type of activity

Most rapidly growing startup companies transfer an existing service into the digital space, thus reaching a higher number of users more efficiently than the existing non-digital solution. B2B startups that deliver industrial solutions bring about a similar change in terms of the business model, work organisation and sales techniques of an industry or a commercial sector. Due to that characteristic, startups are established in all sectors of the economy as all traditional sectors have services that can be transferred into and operated more efficiently in the digital space. Therefore, no sector-specific restriction is recommended with regard to the definition of startups.

Based on international practices, most governments and trade organisations do not use a sector-based approach when defining startup companies as the businesses changing at such a rapid rate are in need of flexible legislation, and as startups may emerge in virtually any industry.

With regard to the definition of startups in terms of taxation law or financing policy, in the UK and the US, the activities listed are those that **do NOT fall into** these sectors rather than the other way round. For example, the [Seed Enterprise Investment Scheme](#) (SEIS)¹, a framework system set up by the UK government for the encouragement of investment into early-stage companies, takes a number of sectors out of the group of potential beneficiaries. (They include the steel industry, coal mining, forest management, legal services etc.; these sectors, however, have access to financing under the Enterprise Investment Scheme.)

According to the American economist and social scientist Richard Florida², the global economy is undergoing a paradigm shift as a result of which the creative industries will account for about two-thirds of national economies in twenty years. The two fastest-growing segments of that sector are design and software development. Most startups are associated with these two segments by all means, whether they specialise in health technology, biotechnology, smart kitchen equipment, toys or communication. One of the broader economic horizons of startups is the creative industry, based on the classification of industries by the Department for Digital, Culture, Media and Sport.

1.2.3. Technical definition by EU grants

When it comes to the technical definition of startups, one should not forget about the **classification according to the financing system of the European Union**. It is all the more important as it will substantially influence the opportunities of financing Hungarian startups between 2014 and 2020 (including the JEREMIE II programme). [Articles 21 and 22 of the General Block Exemption Regulation](#)³ define the businesses eligible for financing as follows:

Article 21 RISK FINANCE AID

Eligible undertakings shall be undertakings which at the time of the initial risk finance investment are unlisted SMEs, and fulfil at least one of the following conditions:

- a) they have not been operating in any market;
- b) they have been operating in any market for less than 7 years following their first commercial sale;
- c) they require an initial risk finance investment which, based on a business plan prepared in view of entering a new product or geographical market, is higher than 50 % of their average annual turnover in the preceding 5 years.

¹ <http://www.seis.co.uk/>

² Florida, Richard (2002): *The Rise of the Creative Class. And How It's Transforming Work, Leisure and Everyday Life*, Basic Books.

³ http://tvi.kormany.hu/download/4/16/21000/COMP-2015-00732-02-02-HU-TRA_GBER_aid%20for%20access%20to%20finance%20for%20SMEs.pdf

Article 22 AID FOR START-UPS

Eligible undertakings shall be unlisted small enterprises up to five years following their registration, which have not yet distributed profits, and have not been formed through a merger. For eligible undertakings that are not subject to registration, the five years eligibility period may be considered to start from the moment when the enterprise either starts its economic activity or is liable to tax for its economic activity.

1.2.4. Definition by size and economic indicators

It is significantly simpler to define startups according to their size and economic indicators.

The UK-based **SEIS** applies the following definition:

- unlisted SMEs not owned by any other company;
- the beneficiary undertaking has been established in the past 2 years;
- prior to the investment, the gross value of the assets of the undertaking does not exceed GBP 200,000;
- the company has up to 25 full-time employees;
- the total amount of investment under the SEIS must not exceed GBP 150,000;
- no company having received an investment from a venture capital fund or having passed on a business share regarding which a SEIS compliance statement has been submitted shall receive SEIS investment;
- the company has at least 50 % shareholding in its affiliates;
- the company does not have an existing angel investment;
- the company has no liquidity problems.

According to the angel investment incentive programme drawn up by **BAFA** (Bundesamt für Wirtschaft und Ausfuhrkontrolle) of Germany, startups must comply with the following conditions when applying for financing by business angels or to benefit from tax incentives:

- the company has been established in the past 10 years;
- it meets the SME definition of the EU;
- it engages in 'innovative activities' as specified by the Statistical Office;
- it is not controlled by any other company.

Techcrunch, an internationally renowned medium specialising in tech companies, however, [proposes the following technical rule⁴](https://techcrunch.com/2014/12/30/what-the-hell-is-a-startup-anyway/) to determine whether a company is a startup and the

⁴ <https://techcrunch.com/2014/12/30/what-the-hell-is-a-startup-anyway/>

turning point when it has outgrown that category. It's the 50, 100 or 500 rule, according to which a company is a startup as long as it has not or is not any of the following:

- USD 50 million revenue run rate (forward 12 months);
- 100 or more employees;
- worth more than USD 500 million, on paper or otherwise.

These approaches and examples show that while startups can be defined more or less clearly as a phenomenon, they **cannot be unambiguously defined as a statistical unit**.

Based on international examples, rather than attempting to identify startup companies in an inevitably arbitrary manner, this strategy applies the distinction 'early-stage businesses' in order to identify the companies that qualify for benefits and preferential treatment. In addition to numerous other countries, this approach is employed in the UK, regarded as the best international practice (see the [Seed Enterprise Investment Scheme, SEIS](#)).

Early-stage undertakings should be distinguished from other companies using the following standard characteristics:

- it is a company not in the majority or exclusive ownership of any other company;
- it is not more than 3 years old;
- its net annual turnover does not exceed HUF 100 million;
- it has up to 20 full-time employees;
- it has not received an investment from a venture capital fund;
- it holds no business share in any other company;
- it does not have unpaid taxes (rather than a definition issue, this is a condition of eligibility for aid).

The definition of startups emerged with regard to two measures of the DSS. In both cases, 'startup' be equally be replaced by the term 'early-stage undertakings'. One of these measures is the **encouragement of angel investment**, where angel investors benefit from a tax allowance where they invest in an early-stage company. The other such measure is **reducing the social security burden of business starters**, where a ninth group of early-stage undertakings is added to the eight preferred groups under the Job Protection Action Plan.

The risks of different approaches:

- ***The General Block Exemption Regulation concerning European Union aid is a reference with regard to numerous grants and government capital programmes.***

While it employs a definition similar to that of the UK SEIS, the terms it uses are less explicit and clear. (One should not forget, however, that SMEs (not startups) are defined by the Regulation.)

- *When it comes to the financing of startups, experts should make the distinction regarding whether or not a business is considered innovative. **That approach is slow, involves excessive red tape and costs, while the selection of experts leaves room for corruption, and is therefore unsuitable for the desired purpose.***
- *A company should be considered a startup if it has R+D+I costs in the previous year or the current year. **While that is an accounting issue, i.e. it is relatively easy to make fake innovations appear as genuine innovation expenses in the books, early-stage businesses tend to spend as little as possible due to the lack of revenues. Moreover, investigations are slow and circumstantial. The proposal is unrealistic and is easy to evade.***
- *Companies with low variable costs should qualify **(this is a characteristic of rapidly scalable companies, whereas rapid scalability is one of the main characteristic of startups): just like the previous parameter, this is very easy to manipulate.***
- *A panel should be appointed to decide whether or not a particular business is regarded as a startup: this is a **slow and bureaucratic option, leaving room for corruption.***

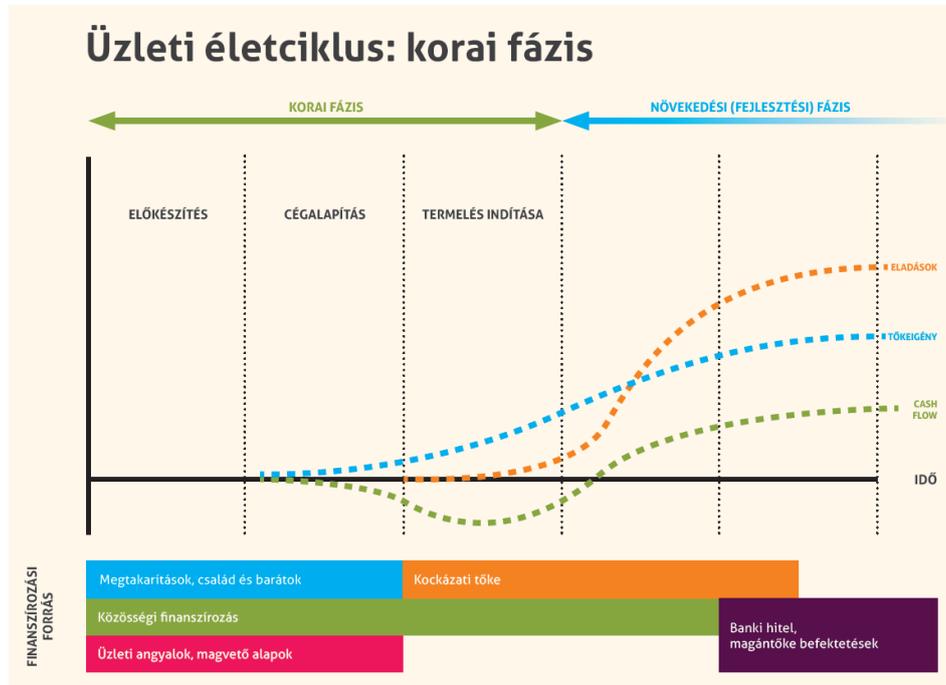
It is important to note that while this document is the Digital Startup Strategy of Hungary (and is by no means restricted to Budapest), significant startup ecosystems tend to emerge in big cities anywhere in the world. Such metropolises are the only places where the capital, knowledge and highly skilled young workforce required for the rapid growth of digital enterprises, of global nature since their birth, are available in sufficient concentration. However, in a properly functioning startup ecosystem, provincial universities, research bases and talents also play an enormous role. All successful startup cities have innumerable links with such provincial university knowledge centres. Budapest might be the only Hungarian city able to be included in the global map of startups, yet even that necessarily requires the existence of knowledge hubs at provincial university centres.

1.2.5. The way startups operate

In international practice, no standard conceptual approach exists regarding the lifecycles of startup companies. This document uses the lifecycle model set up based on a 2015 study by the Entrepreneurship Foundation Hungary, entitled ‘*A survey of the situation, participants, problems and obstacles in the startup business environment in the Hungarian ICT sector*’.

Over a longer time frame, the lifecycles of the operation of a company may be broken down

to the phases shown in the chart below.



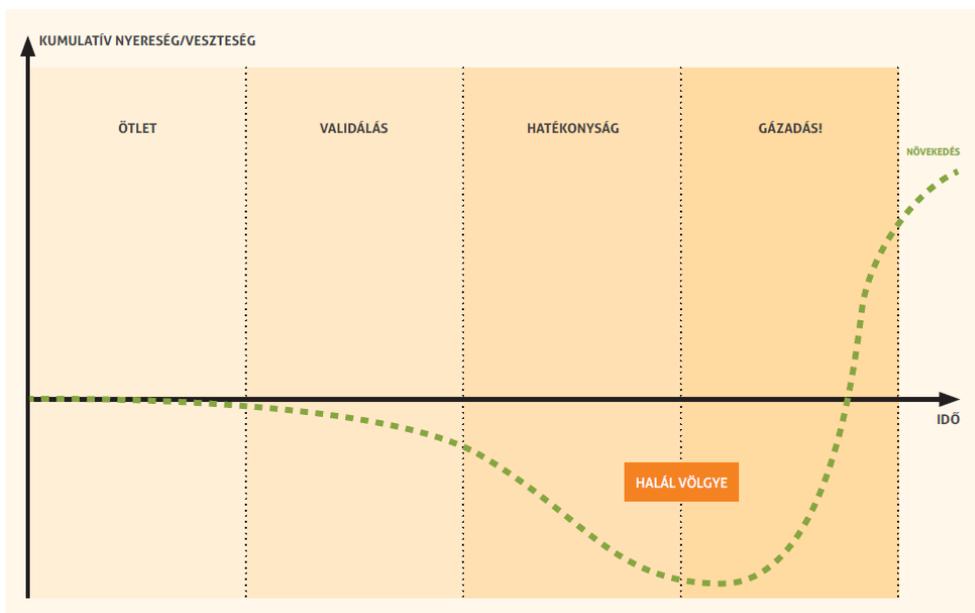
Üzleti életrciklus: korai fázis	Business lifecycle: early stage
KORAI FÁZIS	EARLY STAGE
NÖVEKEDÉSI (FEJLESZTÉSI) FÁZIS	GROWTH (DEVELOPMENT) STAGE
ELŐKÉSZÍTÉS	PREPARATION
CÉGALAPÍTÁS	FOUNDATION OF THE BUSINESS
TERMELÉS INOÍTÁSA	START OF PRODUCTION
ELADÁSOK	SALES
TŐKEIGÉNY	NEED FOR CAPITAL
CASH FLOW	CASH FLOW
IDŐ	TIME
FINANSZÍROZÁSI FORRÁS	SOURCE OF FINANCING
Megtakarítások, család és barátok	Savings, family and friends
Kockázati tőke	Venture capital
Közösségi finanszírozás	Crowdfunding
Üzleti angyalok, magvető alapok	Business angels, seed capital funds
Banki hitel, magántőke befektetések	Bank loans & private capital investment

Source: Entrepreneurship Foundation Hungary – A hazai IKT szektort érintő induló vállalkozói környezet helyzetének, szereplőinek, problémáinak, gátló tényezőinek vizsgálata, 2015.

During the early stage, i.e. from the idea to the beginning of growth, the lifecycle of startup companies can be broken down to four stages:

- Idea
- Validation
- Efficiency and business model
- Start of growth

Financing requirements vary during the particular stages of the lifecycle.



KUMULATÍV NYERESÉG/VESZTESÉG	CUMULATIVE PROFIT/LOSS
ÖTLET	IDEA
VALIDÁLÁS	VALIDATION
HATÉKONYSÁG	EFFICIENCY
GÁZADÁS!	ACCELERATION
NÖVEKEDÉS	GROWTH
IDŐ	TIME
HALÁL VÖLGYE	DEATH VALLEY

Source: Entrepreneurship Foundation Hungary – A hazai IKT szektort érintő induló vállalkozói környezet helyzetének, szereplőinek, problémáinak, gátló tényezőinek vizsgálata, 2015.

1. Idea

Objective:	To verify whether the hypothetical problem is real, and there is genuine market demand for the solution. This is followed by drawing up the business concept.
Organisation and events:	The idea for a potentially marketable product or service is drawn up. A single person or a very small team is involved, without any commitments, while no balance has yet been achieved within the team in terms of the skills required for the implementation. By the end of the period, the founding team has taken shape, a number of interviews have been conducted with potential customers, the first serviceable product/service has been produced and, where appropriate, an incubator and/or accelerator has been contacted.

Source of financing:	Financing by the family and friends, perhaps a government grant or a pre-seed venture capital fund.
Needs for services:	A mentor, a coach or a business angel to guide the team toward a realistic business course with criticism and patience; idea contests and hack days to meet potential co-founders and to receive feedback and advice for the start. In these fields, the government should provide direct financing to large stakeholders (trade organisations, associations, societies, universities etc.) as well as require them to train entrepreneurial skills on a compulsory basis.
Duration:	5 to 7 months.

2. Validation

Objective:	Early validation of a product or service: is it really worth developing the product/service in question, does it have a (potential) market, is there any growth opportunity?
Organisation and events:	Producing the MVP (Minimum Viable Product). Validation may take place as an actual sale or otherwise. Essentially, it consists of producing a prototype based on the idea, then presenting it to customers by selling it or otherwise, gathering feedback, analysis and learning. Development is being fine-tuned, the first real customers come forward.
Source of financing:	While funding may be provided by a seed capital fund, the role of business angels is extremely important during that stage. In addition to the investment, they assist the business through their experience, skills and network.
Needs for services:	Mentor, incubator, accelerator, business angel network, general business services.
Duration:	3 to 5 months.

3. Efficiency and business model

Objective:	Developing a version of the product/service and a business model that are fit for the market and finding the so-called PMF (Product Market Fit).
Organisation and events:	Based on the lessons learnt during validation, developing the product/service to be presented on the market. Drawing up the marketing strategy and preparing for implementation. The startup is fine-tuning its business model and improving its customer service activities. The company is achieving a significant growth.
Source of financing:	While income is being generated, all of it is reinvested in further development projects. Seed capital or venture capital.
Needs for services:	Mentor, incubator, accelerator, business services. The government should intervene in cooperation with the existing accelerator, incubator and consultants as the stakeholders are thus able to distribute financing among the startups while expanding their portfolios, which involves a number of benefits: government financing can be paid in a more substantial lump sum (thus avoiding the scattering of the system of government institutions), private stakeholders are able to find the best startups etc.
Duration:	5 to 6 months.

4. Start of growth

Objective:	Acceleration, increasing market penetration.
Organisation and events:	Turning into a higher gear, the startup strives to achieve aggressive growth. The first real manager gets involved while the company is reorganised (diversification). During that stage, the company reaches the end of the 'Valley of Death', i.e. it starts generating profit.
Source of financing:	Venture capital.
Needs for services:	Mentor, incubator, accelerator, business services. Later on, during the scale-up stage (late startup, growth phase), each business is large enough to be financed directly or through

	specialised programmes such as JEREMIE.
Duration:	7 to 9 months.

Based on the foregoing, the chart below sums up the lifecycle of startups, showing the type of support stakeholders are able to provide during each stage.



Ötlet	Idea
Konceptió (Stand-up)	Concept (Stand-up)
Prototípus, MVP	Prototype, MVP
Piacra lépés Árbevétel generálás	Market entry Sales
Finanszírozás: kockázati tőke, állami források, kedvezményes hitel	Financing: venture capital, government funds, privileged loans
Piacra lépés támogatása és nemzetközi expanzió	Supporting the market entry and international expansion
Akcelerátor programok	Accelerator programmes
Validáció (helyi és globális), angyalbefektetők	Validation (local and global), angel investors
Networking, tréning, oktatás, rendezvények	Networking, training, events
Vállalkozói attitűd kialakítása	Shaping the entrepreneurial attitude
FFF támogatás	FFF support
Idő (Startup életciklus)	Time frame (Startup lifecycle)
Szemléletformáló / érzékenyítő programok	Awareness-raising programmes
Multiplikátorokon keresztül (pl. Inkubátorok /Akcelerátorok általi) támogatás	Support through multipliers (e.g. incubators/accelerators)
További jelentős mértékű, direkt és egyéni támogatás a vállalatok felskálázására	Additional substantial direct and individual support in order to upscale businesses

Source: based on innomine Group, INCYDE Foundation, *The lifecycle of startups and required supporting services*, 2016.

1.3. Designating the piers of the strategy

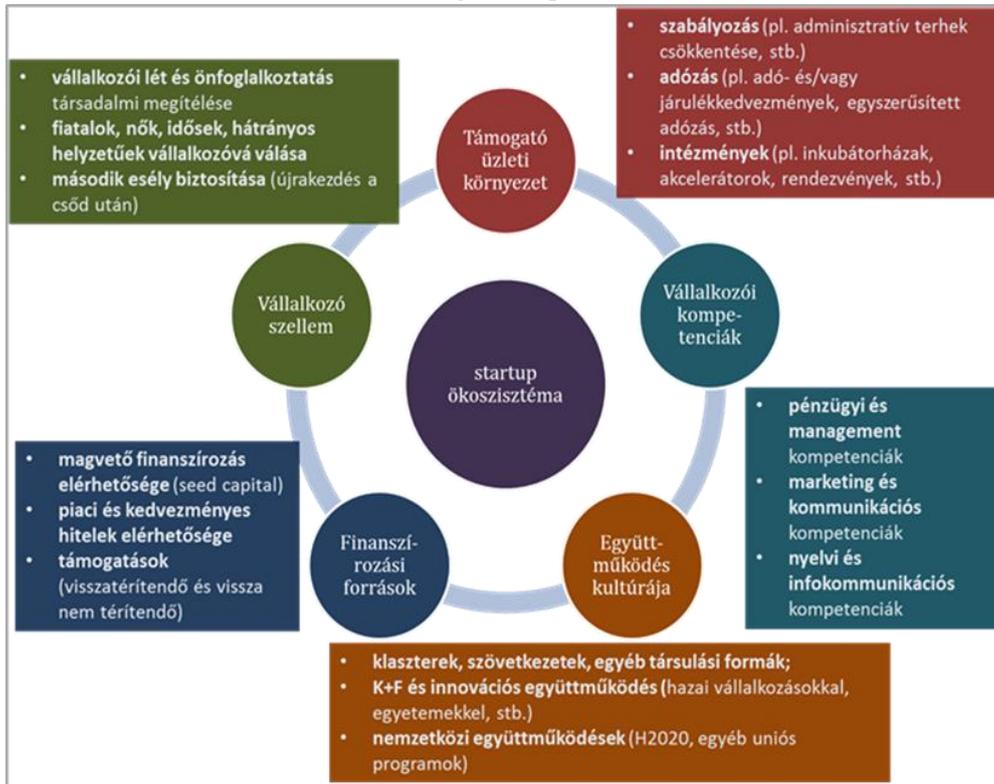
While the term ‘startup ecosystem’ has gained currency in recent years, no comprehensive analysis covering all elements of the ecosystem surrounding startup companies has been drawn up. According to our hypothesis, the low number of Hungarian startup success stories has been due in particular to the fact that the existing programmes have been restricted to a particular element of the startup ecosystem (incubation, launch on the market, attracting venture capital etc.), lacking an integrated situation assessment and strategy to cover all factors of the startup ecosystem from the public education system to the development of entrepreneurial competences to restrictive factors associated with the business environment. **The Digital Startup Strategy of Hungary** intends to fill that gap by **reviewing the ecosystem as a whole and putting forth a proposal for the development of the ecosystem as a whole.**

The strategic approach assumes that the analysis actually covers the ecosystem as a whole, from developing entrepreneurship and entrepreneurial competencies to providing sources of financing to strengthening the culture of cooperation and to entry to the international market. Between them, an attractive business environment, a certain financing background, awareness-raising and competence development from public education to higher education to adult education and the ability to participate in Hungarian and international cooperation may result in a powerful startup ecosystem which, by significantly expanding R&D and innovation activities and strengthening the SME sector as a whole, will make a substantial contribution to increasing the competitiveness of the Hungarian economy.

Based on the above, **five piers are identified** by the strategy:

- **Entrepreneurship**
- **Entrepreneurial competencies**
- **The culture of cooperation**
- **Supportive business environment**
- **Sources of financing**

The chart below shows the areas covered by each pier:



2. Situation assessment

2.1. Supportive business environment

2.1.1. The state of affairs in Hungary

- According to the rankings of the EU Small Business Act ('SBA'), considering the administrative and legislative background, Hungary is below the European average, roughly side-by-side with the Visegrad Four.
- In the aggregated competitiveness rankings of the World Economic Forum, Hungary is at the 63rd place, somewhat above the world average. Within the European Union, however, we are at the end of the list, followed only by Cyprus (65th), Slovakia (67th), Croatia (77th) and Greece (81st). (Of the Visegrad Four, Czechia heads the list at the 31st place.) Our position is substantially deteriorated by the legislation and the administrative burdens of SMEs. (Effect of the fiscal environment on the willingness to invest: 120th place; effect of the fiscal environment on employment: 117th place; government legislative and administrative burdens as a whole: 128th place.)
- On the Nesta European Digital City index (EDCi), Budapest is the 22nd out of 35 European cities, preceded only by Tallinn (20th) and Prague (19th) within the region. On the basis of the EDCi's conclusions, there is room for improvement in terms of the administrative environment, young people's entrepreneurial competences and the command of English.
- Reviewing the best international examples, it can be concluded that while the success of various successful ecosystems (Estonia, Finland, Ireland, UK, Singapore) may be due to the entirety of a range of different factors, all of them have a simple and clear legislation and impose little administrative burden on businesses.
- From a regulatory point of view, complicated financing systems and administrative burdens constitute the most important competitive disadvantage of the Hungarian startup ecosystem.
- Under Hungarian programmes granting privileges, the group of persons qualifying for privileges/participation is typically set too narrow, in an excessively complicated manner, particularly when compared to other countries.
- While various minor tax allowances and preferential forms of taxation are available, none of them gives a significant lead to startups or facilitates their access to financing.

- With regard to taxation, both startups and fiscal policy-makers are faced with various major challenges:
 - one of the special characteristics of startups is that while they typically generate no profit in the first years, significant risks are involved in product and service development. In most cases, they are thus unable to rely on the classic tax-related support tools of research, development and innovation, such as writing off research and development costs from their corporate tax base;
 - again as opposed to other types of companies and due to higher risks, technological startups typically use special models to acquire financing and investment, other than classic bank loans (risk capital, equity financing, angel financing, options in lieu of/in addition to payment etc.); therefore, a startup-friendly fiscal environment should take such factors into consideration.
- While in Northwest Europe and the United States, due to various fiscal incentives, early-stage financing is increasingly provided by angel investors, by the time of drawing up this strategy, Hungary had not implemented such an incentive scheme. (At the time of closing the manuscript, however, the Bill No T/12741 amending certain tax laws and other related laws has become known; it includes a proposal for a corporate tax base allowance for investors into startup companies.)
- As far as the support environment other than legislation and fiscal policy is concerned, improvements are called for regarding the following areas:
 - ‘mapping’ the support environment of the Hungarian startup ecosystem and ensuring the widest possible accessibility of information related to the support environment;
 - emphasising role models extensively;
 - supportive city marketing and attracting foreign startups to Hungary.

2.1.2. International best practices

In terms of a supportive business environment, the best European examples for Hungary include:

- **Berlin** (similar conditions: low subsistence costs, cultural similarities, bureaucratic hurdles, high quality cultural life etc.);
- **Tallinn** (similar historical heritage, similar qualification issues);

- **Lisbon** (similar size, the same problems a few years ago, which have been successfully addressed).
- **The Berlin ecosystem** is organised much more 'bottom-up'. The municipal government and the central government have been successfully cooperating with interest organisations (pl. German Startups), carrying out their suggestions.
- **Characteristics of the Estonian approach:** conscious and consistent ecosystem development and economic strategy spanning several governments, aiming to strengthen the creative industries and digitalisation; about that, there has always been an agreement between governments over that past 15 years. Great attention has been paid to education (inclusion of programming and design in public education), the ongoing reduction of red tape and administration, very useful websites where the persons interested can easily access information concerning opportunities and financing.
- **In Austria**, while measures to support the startup ecosystem have been implemented for years, the Austrian government has only recently come up with a coherent long-term strategy, for the first time. The launch of a comprehensive startup programme is to be launched in January 2017. Under the programme, more than EUR 185 million (about HUF 58.2 billion) will be granted to finance innovative enterprises. The strategy also includes the reduction of social security payments, a startup visa and new risk capital programmes, while a website entitled [Global Incubator Network](#)⁵ has also been set up. It lists and connects startups, investors and incubators and presents the most important events of the ecosystem.
- **In Israel**, the Yozma programme was launched with a budget of USD 100 million, setting up ten risk capital funds. Each risk capital fund operated with a basic amount of USD 20 to 25. Between 40 and 50 % of that amount was provided by the Israeli government while the remaining amount was granted by foreign investors. Government funds, however, were only provided in order to start off the funds. Business stakeholders joining and acquiring a share in the funds were granted a call option, i.e. they could buy out the government share at any time during the initial 5 years of the fund at 5 % interest. As a result of the launch of the programme, major international investors had soon entered the market before the programme was privatised in 1998. The Israeli government realised that they were lacking the required knowledge and experience to manage the funds and thus mainly US investors were involved in the risk capital funds. Later on, these companies, including for example, Benchmark, Sequoia and Intel

⁵ <http://www.gin-austria.com/index.html>

Capital, established offices of their own in Israel.

2.1.3. SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Dynamic urban life; Budapest is an attractive location for young entrepreneurs. • Events lining up Hungarian and foreign presenters meeting international standards; a dynamic meet-up culture. • Due to the low subsistence and labour costs, investments into startups in Budapest are worth significantly more than in a more expensive city. • Satisfactory level of training in engineering, economics, design and arts/social sciences. • Ease of setting up a business. • Existing preferential taxation schemes. 	<ul style="list-style-type: none"> • High administrative burdens. • The taxation environment has a negative effect on the propensity to invest. • Up to 2017, no tax allowance was available to encourage investments by business angels. • While various minor tax allowances and preferential forms of taxation are available, none of them gives a significant lead to startups or facilitates their access to financing. • The conditions of self-employment are complicated and have a deterring effect. • The group of persons qualifying for privileges/participation is typically set too narrow or in a too complicated manner under programmes granting privileges. • There are obstacles to hiring employees and too much tax-related administrative activities. • There are few diversified co-working offices providing a range of services outside Budapest; there are few accelerators integrated into the international circulation.
Opportunities	Threats
<ul style="list-style-type: none"> • The digital economy is currently being built up, i.e. Hungary is still not lagging years behind. • Adopting international models of 	<ul style="list-style-type: none"> • The best experts leave the country while Budapest is not attractive enough for foreign startup entrepreneurs to settle there.

<p>ecosystem development.</p> <ul style="list-style-type: none"> • More efficient help could be provided by mapping the support environment of the Hungarian startup ecosystem. • Ensuring the widest possible accessibility of information related to the support environment. • Emphasising role models extensively; reinforcing positive media feedback. • Developing programmes in order to attract foreign startups and expertise to Hungary. • The activities of some well-known angel investors are becoming apparent (e.g. Power Angels and the Hungarian Business Angel Network). • Improving the programmes of festivals and increasing the ratio of international visitors. 	<ul style="list-style-type: none"> • There are years of gaps between each global Hungarian startup success story; there are few new role models. • There is increasing global competition among big cities to attract the best creatives, programmers and entrepreneurs. Budapest must offer an attractive value proposition in order to stand its ground in that competition. • As there are no close links between participants of the ecosystem and government decision-makers, bottom-up initiatives may weaken without support, while top-down support lacks in efficiency.
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2.2. Entrepreneurship

2.2.1. The state of affairs in Hungary

- Entrepreneurship in Hungary is low on a global scale, whereas in a European comparison, it is the least accepted way of life in Hungary.
- While young people are most concerned of uncertainty and risks, society fails to properly acknowledge those who are willing to take that risk.
- An essential element of success, ongoing experimentation is part of the culture of entrepreneurship. Failure goes hand in hand with experimenting. That is how failure is seen in successful entrepreneurial ecosystems, rather than as a stigma. Hungarian society, however, including a lot of young people, are very worried about failure, which tends to discourage them from further experimentation. Changing that attitude is a cultural issue to be resolved in the long term.
- The low level of entrepreneurship correlates with the message of various

international reports (e.g. the European Digital City Index) concerning Hungary: **rather than talent, innovation or expertise, the missing factors include the skills and abilities required in order to build a successful enterprise based on innovation.**

- This weakness of our ecosystem demonstrates that the development of startups calls for a complex, multi-dimensional approach. Successful entrepreneurs will not emerge on the strength of ample available capital; that is but a single element in the formula of success. Creating an efficient ecosystem is as much a matter of culture, i.e. developing entrepreneurship starts at school.
- Developing entrepreneurship requires a long-term, consistently implemented strategy, which involves a number of important stakeholders (from schools to global festivals in Budapest to initiatives presenting successful entrepreneurs as role models).
- Since the enterprises of the future will emerge in a digital world, it has become increasingly important to pay attention to the development of persons left out of digitalisation (senior entrepreneurs, people with lower levels of education etc.).

2.1.2. International best practices

- International examples of communities of female entrepreneurs:
 - [Girl meets money](#) | portal for women on opportunities in the US
 - [Women Founder Network](#)
 - [Start Up Chicks](#)
- Examples of international programmes targeting experienced, active and motivated seniors:
 - [Senior Enterprise](#) | Ireland
 - [Best agers](#) | Denmark, Estonia, Germany, Litvânia, Poland, Sweden and the UK
 - [Female scheme](#) | United Kindgom, Cyprus, Netherlands, Italy, Malta
 - [Exprieneurship](#) | United States

For the SWOT analysis, see the end of the Entrepreneurial competencies pier.

2.3. Entrepreneurial competencies

2.3.1. The state of affairs in Hungary

- As far as entrepreneurial competencies are concerned, there are two different

approaches: one claims that entrepreneurship is essentially a natural endowment, a complex of characteristics that cannot be taught, whereas according to the other, entrepreneurial skills can be trained and learnt.

- The two approaches, however, agree that the skills concerned can be developed, at least in the persons already possessing such skills to a certain extent. The social perception of being an entrepreneur is extremely important: the cultural environment has great influence on the number of successful entrepreneurs in a particular society. Those two points can and should be developed.
- A dozen countries are currently experimenting with the inclusion of entrepreneurial skills in public education. The most efficient such initiative has probably been that of the UK. Within our region, Czechia and Bulgaria have implemented similar programmes. In Hungary, exemplary private initiatives have been introduced in some foundation schools in the past few years. Even more importantly, however, since 2013, entrepreneurial skills and competencies have been part of public education in Hungary. According to the Government Decree No 110/2012 (VI. 4.) on publishing, introducing and applying the Basic National Curriculum, key competencies include entrepreneurial competencies. The training of entrepreneurial skills thus appears in primary education as part of social, civic and economic skills within the field of financial and economic culture. As part of optional, eligible subjects, framework curricula have been drawn up for the training of entrepreneurial skills in grades 7 to 12. In addition to that, a number of curricula in vocational training also include relevant framework curricula. For the academic year 2016/2017, public education announced its relevant thematic week for schools as part of the ordinary curriculum. It should be noted, however, that there are still too few competent teachers in order to ensure that entrepreneurial skills are taught in a professional and sufficiently interesting manner and that the effect of entrepreneurial skills, included now in public education as an eligible subject, has not yet resulted in any significant improvement in terms of the willingness of young people to start a business. On the basis of the relevant OECD survey, Hungarians show a distinctly poor performance regarding the competencies required in order to run a successful business. The quality of our financial culture is expressly low (that said, all ex-socialist countries have performed at a similarly poor level), whereas we are also lagging behind most other European countries in terms of linguistic competencies. As far as digital competencies are concerned, on the whole, we perform roughly at the average of the European Union. However, there are enormous problems concerning the digitalisation of older people, and in particular of people with a low level of education. In the future, the latter problem may increase the gap between people with a low level of education and a low income and the rest of the society and thus

social inequalities.

- The results of the OECD are confirmed by the European Digital City Index: Within the global startup ecosystem, in addition to the administrative hurdles, Budapest's two main competitive disadvantages are a poor command of English and weak entrepreneurial competencies.
- As far as competence development is concerned, it can be concluded that the training of entrepreneurial skills is rather deficient on all levels of public education and even where it does exist, the training of 'business' and 'entrepreneurship' skills is often mixed up even though they are two different things that require different approaches. There is hardly any entrepreneurship training at universities and colleges not for economics. It would, however, be extremely important as young people working on new and innovative solutions are taught at science, applied arts and engineering programmes.
- As for non-academic entrepreneurship programmes targeting college students, various initiatives to introduce college students into entrepreneurship have been launched in recent years. Among others, they include Startup Campus, called into being by the Enterprise Hungary. It helps students develop ideas, raise funds and achieve market validation while also providing mentoring services. The services of Startup Campus are currently available in Budapest, Debrecen, Győr, Kecskemét and London. At the Budapest University of Engineering, there has been Demola, an open innovation platform for university students for years. Demola enables students, entrepreneurs, the university and large enterprises to collaborate on growing successful enterprises out of new and innovative solutions.
- Non-public-education solutions are too Budapest-centred and too expensive. Generally speaking, however, there is a blooming 'meetup culture'. The startup ecosystem independently acquires the required entrepreneurial skills, i.e. the skills it has not been taught at school. Working off that competitive disadvantage probably constitutes an important challenge for the educational system.
- The Digital Startup Strategy of Hungary focuses on the development of entrepreneurial competencies; the development of digital competencies has been one of the priorities of the Digital Educational Strategy of Hungary (DES). Articles 4, 5, 6, 9 and 11 of the DES Government Resolution address the availability of digital equipment required for the development of digital competencies and the development of teachers' competences; it intends to ensure that all citizens should acquire at least basic digital literacy, ordering the establishment of the Digital Higher-Education Competence Centre.

2.3.2. International best practices

- **In two-thirds of European countries**, there are signs even in the primary school curriculum, which indicate an intention to improve certain entrepreneurial competencies, such as pro-activity, creativity and risk-taking.
- **Slovakia** has included a subject called ‘work education’ even in the primary school curriculum, which includes entrepreneurship.
- In the **Netherlands**, schools may apply for a grant if an entrepreneurship-related curriculum is developed and included in their syllabus.
- Practical entrepreneurial skills are currently being taught in four countries only: **in Lithuania, Romania, Liechtenstein and Norway**. In certain countries, the concept ‘enterprise’ is part of the Ethics subject (in the **Czech Republic**, where the subject is optional), in **Poland**, apart from social sciences, the topic also appears in the teaching of mathematics, whereas in **Bulgaria**, it is part of the subject ‘home economy and technology’.
- Special teacher training in the field is only provided in **the Flemish part of Belgium, Bulgaria and the Netherlands**. A central guidance and teacher training material is only available in one-third of all European countries. One of the greatest advances in the field has been achieved in the **UK**. Following the expert study entitled [Enterprise for all](#), published by the UK government, radical changes are proposed in public education in the UK. Following the [development projects](#), entrepreneurial skills will be given a lot more weight in secondary schools.

2.3.3. SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Diversity: significant industrial traditions in various sectors. • Satisfactory levels of university education in a number of fields (IT, engineering, economics, design etc.). • Female entrepreneurs are overrepresented in comparison with the EU average (Hungary: women account for 34 % of all entrepreneurs, which exceeds the average EU-28 indicator of 31 %.) 	<ul style="list-style-type: none"> • The digitalisation of senior citizens and people with a low level of education is not supported. • Young persons’ competences lag behind the EU average (based on the OECD’s survey). • Low level of linguistic competences. • Low quality of financial culture. • Non-public-education solutions are too Budapest-centred and too expensive.

<ul style="list-style-type: none"> • An increasing proportion of the Y generation are willing to go self-employed; being self-employed is becoming increasingly attractive for them. • Good quality digital competencies. 	<ul style="list-style-type: none"> • Low awareness of innovation, and the protection of intellectual property. • The focus of career advisors is overtly restricted to multinational and large companies. • Few teachers have entrepreneurial competences, while there is no relevant training for teachers. • Entrepreneurship in Hungary is low on a global scale, whereas in a European comparison, it is the least accepted way of life in Hungary. • The fear of failure is high whereas the willingness to take risks is low. • There are few young entrepreneurs. • Successful entrepreneurs are still underrepresented in mass media and have only become role models for a small group of people.
Opportunities	Threats
<ul style="list-style-type: none"> • Entrepreneurial skills can and should be developed. • The development of a culture of entrepreneurship at an early age has begun with the establishment of ‘entrepreneurial colleges’, whereas public education has been reinforced by entrepreneurial competence development programmes. They are expected to bring results on a medium term, in particular if the programme continues to improve and develop based on the feedback received. • Developing new tools for efficient incubation (e.g. open labs & tech shops). 	<ul style="list-style-type: none"> • The educational system has been unable to catch up with the challenges of the 21st century; there is an increasing shortage of skilled experts. • The educational curriculum still lacks training for the entrepreneurial spirit, which widens the gap and curbs entrepreneurship. • People with low education and income may drop even more behind i.e. social inequalities may increase. • A continuously ageing society. • The social perception of entrepreneurs has not improved due to the excessive tax and social security burdens.

<ul style="list-style-type: none"> • Successful entrepreneurs will feed their skills back to the new generation, i.e. persons to pass on relevant and meaningful skills are visible. • Exploiting the EU action plan 'Entrepreneurship 2020', specifically aiming at boosting entrepreneurship. • Reactivating women, senior citizens and restarters. • Achieving that people consider failure as a necessary concomitant of experimenting and success and providing efficient support to restarters. 	<ul style="list-style-type: none"> • A weak entrepreneurial spirit resulting from cultural traditions has not changed while the perception of the ecosystem has not improved. • The educational system fails to encourage people to start a business.
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2.4 The culture of cooperation

2.4.1. The state of affairs in Hungary

- Cooperation, knowledge sharing, clustering and the culture of cooperation in general are important elements of a successful ecosystem.
- While linguistically and in terms of its market, the European Union is more fragmented than the US, it has endeavoured to implement numerous initiatives in order to improve cooperation between Member States, between large companies and startups, within particular industries and between industries. Union allocates a great deal of funds for these purposes, both proportionally and in absolute value.
- Nevertheless, success has been moderate: this is called the European Paradox. (Despite lots of financial support, generous financing and initiatives, a lot fewer large global companies grow out of an innovation than in the US, for example.)
- That fact demonstrates that business development is not a one-dimensional issue, i.e. support and financial incentives are not the only factor, in fact, are not the most important factor that determines whether a successful entrepreneurial ecosystem is achieved in a country or region; **it is, first and foremost, a cultural issue.**

- Changing the cultural environment is a complex long-term challenge that requires a consistent and uniform development strategy.
- There are, however, simple tools that enable achievements and partial achievements even in the short run: these include the creation of open innovation models to improve cooperation between large companies and startups or of living labs that enable startups, large enterprises, researchers and public institutions to conduct joint experiments.
- Such type of cooperation requires support, a service approach and an active facilitator role by municipal governments and the strategic opening of public municipal data. These measures may target priority sectors (the Helsinki way, [Helsinki Region Infoshare](#)).
- The data industry is one of the most dynamically growing industries of the present and the near future, growing at a rate seven times faster than other fast-growing ICT industries. Within the industry, public data play an extremely important role in the fields of collection, processing and access as well as in the development of services and products based on the above. Access to public data is indispensable for the start of successful new startups. Hungary should come forward with legislation that is exemplary on a global scale.
- Currently, there are hardly any links between innovative startups and large Hungarian companies in Hungary. In order to enable flexible innovative businesses to enrich large structures, it is both necessary and important to strengthen the links between them.
- In Hungary, the presence of startups is currently relatively insignificant, whereas their B2B value chains are virtually non-existent. At the same time, supply by large multinational companies is heavily overrepresented in the volume of simple supplier value chains that determine the traditional balance and model and is also heavily focused on certain industries (i.e. the automotive industry). From the point of view of the Hungarian economy, such two-directional restriction: 1) carries substantial risks in terms of both of its aspects (international exposure, geographical flexibility; the state of a particular industry); 2) contributes to the maintenance of a (relatively) mediocre production; 3) while preserving the country's current participation in global value chains, i.e. our involvement in mainly lower added-value processes.
- Pre-commercial procurement (PcP) could be an efficient tool for strengthening the links between startups and the government.

2.4.2. International best practices

- A **startup visa** has been introduced by more than 10 countries worldwide. The startup visa encourages foreign entrepreneurs to establish companies in the country. For entrepreneurs, this may offer a better or more supportive environment for investment and for founding companies, whereas from the point of view of the ‘host’ country, it represents a new kind of knowledge, innovative spirit and new jobs, not to mention the increase in tax revenues.
- **Best international practices related to providing access to public data and to data policy:**
 - municipal and regional level: Helsinki Region Infoshare, Forum Virium, French Tech Cities;
 - national programmes: data.gov;
 - international programmes bringing cities together: OASCities, FiWare, CitySDK, geeks 4 cities;
 - (municipal) organisational units: CTO, Digital Transformation Department.
- The **Aalto University in Finland** was essentially established by merging three formerly autonomous universities, intending to leverage the synergies resulting from linking up three distinct professional fields, i.e. engineering, economics and applied arts. In addition to high-level research and education, the university focuses on cooperation with businesses and government organisations.
- Earlier examples from the US include the cooperation programme between the **Berkeley and Stanford universities**, the research results of which have also been made available to third parties.
- **Israeli startup ecosystem:** the Office of Chief Scientist (OCS) of the Ministry of Industry, Trade and Labour manages and exercises supervision over the government funds allocated for industrial innovation research and development projects. Successful projects will result in the sale of companies, which are thus able to repay the amount of financing to the OCS. The OCS cooperates with other ministries (each of which also has a department supporting R&D) and with foreign countries regarding potential joint projects. Government policies and the activities of the OCS have created an investment environment attracting hundreds of international businesses into the country.
- **EXIST** is a programme supported by **Germany’s** Economy and Energy Ministry, aiming to encourage and develop entrepreneurship at universities and research institutes. Through supporting graduates, scientists and college students, it also aims at

increasing the success of technology and knowledge-based startup businesses starting from universities. Under the programme launched in 1998, nearly 1,700 startups have been given support and almost all universities of the country have been involved in the university-level development of the culture of entrepreneurship.

2.4.3. SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • A favourable geopolitical location. • Hungary is thoroughly embedded in the global economy. • A relatively high-level of research infrastructure. • A dynamically improving meet-up culture in Budapest. 	<ul style="list-style-type: none"> • Entry to the international market is difficult (particularly for hardware startups). • The ‘European Paradox’. • Changing the cultural environment is a complex long-term challenge that requires a consistent and uniform development strategy. • The lack of university partnerships reinforces the lack of cooperation among young graduates, which would be necessary for operation on the market. Moreover, the diversity of research serving as the basis for university development projects is negligible. • There is very little cooperation between large Hungarian companies and startups. • No online centre to embrace the ecosystem.
Opportunities	Threats
<ul style="list-style-type: none"> • Collaboration among businesses and development institutions/institutions possessing infrastructure will lead to new innovative development projects. • Increasing role of the economic role of (industry) clusters. • Spreading of the Living Lab collaboration, one of the most common forms of open innovation. 	<ul style="list-style-type: none"> • The international, inter-regional and inter-company digital gap remains. • A substantial gap may form between future market requirements and the higher-education demand. • As the European market is not expected to grow less fragmented, it is more difficult to grow big within the EU than in the US.

<ul style="list-style-type: none"> • Powerful efforts to achieve cooperation between cities and local communities. • An increasing number of Hungarian startups are acquired by foreign businesses (m&a) or vice versa, i.e. the Hungarian ecosystem is becoming increasingly international. 	
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2.5 Sources of financing

2.5.1. The state of affairs in Hungary

- The United States, Silicon Valley in particular, boast the most advanced financing infrastructure worldwide. In Europe, the role of London, Paris and Berlin should be emphasised, while Scandinavian countries and Israel have also done well.
- In Hungary, since 2011, the number of capital allocations has increased at a dynamic rate. In a regional comparison, the country ranks among the best. That growth, however, has been mainly due to the JEREMIE programmes of the EU, which account for 70 % of all capital allocations. Without the JEREMIE, the country would lag behind Western Europe and would do poorly even in a regional comparison.
- According to experts, the JEREMIE programme has been controversial. Despite allocating a great deal of risk capital, investors have been unable to achieve a sufficient number of successful exits and, on a pro rata basis, JEREMIE funds have not promoted the development of the ecosystem to the desirable extent. (However, another 2 or 3 years must still pass until the final evaluation of results as some fund managers did not start their operation before 2014, i.e. potential exits are still to be seen.)
- Moreover, the financing situation is improving slowly but steadily: both investors and entrepreneurs are becoming increasingly skilled, the activities of some well-known angel investors are becoming visible while new government risk capital programmes are being launched in which earlier mistakes have been corrected.
- The Hungarian risk capital financing infrastructure has two significant deficiencies: the financing of both early-stage and growth-stage startups has not been resolved, i.e. it is just as difficult to receive an investment of 50 to 200 thousand euro as 3 or 4 million. Most JEREMIE funds have preferred allocations of an amount of EUR 700 000

to 1 million. Problems have also included that, due to the difficulty of obtaining seed capital, startups in too early stages of development have received a disproportionately high investment.

- The data shows that, in Hungary, development is hindered by factors other than a shortage of venture capital or the low amount of aid. Distribution, accessibility and the framework system of aid must be reviewed. Similarly, the use of potential, relatively low-cost regulatory instruments (e.g. encouraging angel investors) in order to give further impetus to the ecosystem should be considered.

2.5.2. International best practices

- In terms of encouraging angel investments, the Anglo-Saxon (US and UK) model is traditionally considered as the best international practice. The UK model is a rather complex one, which goes beyond the granting of a tax relief to individuals investing into a startup as various types of tax relief are available to the startups themselves. While various aspects of the **Seed Enterprise Investment Scheme (SEIS)** of the United Kingdom, based on a complex yet simple logic, may be a good basis for the Hungarian legislation, they should be adapted to local conditions.
- The point of the **German model** is to:
 - review legislation by adding **suitable tax incentives**;
 - **provide funds** to companies with as **few restrictions** as possible; and
 - gradually **remove bureaucratic hurdles**.
- **Turkey** has in recent years developed a remarkable infrastructure in order to support angel investments and innovative enterprises. Certified angel investors (members of the Angel Club) can deduct up to 75 to 100 % of their invested capital from their annual taxable income by investing in particular SMEs.
- More than 24 **US** states have implemented a tax credit system of a rate between 10 to 100 % as an incentive to early-stage investment. The programmes and the details vary by state. Most states offer rates between 25 and 40 %. (In each state, however, angel investors are only required to pay income tax on the added value generated by their investments once a profit has been achieved.)
- **Portugal**, a country similar to Hungary in various respects, tops up angel investments based on a generous and efficient co-investment scheme, grants a tax refund on investment and co-finances the maintenance of angel investor networks.

2.5.3. SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Exemplary investments exist, serving as a model for others. • In Hungary, since 2011, the number of capital allocations has increased at a dynamic rate. In a regional comparison, the country ranks among the best (JEREMIE programme). • Sufficient capital is available for startup development. (Its distribution and the access to capital are, however, not necessarily satisfactory.) 	<ul style="list-style-type: none"> • In Hungary, the conditions of access to financing (that is sufficient and is adjusted to each stage of the entrepreneurial lifecycle) are currently far from ideal. • The financing of both early-stage startups and scale-up companies is unresolved. • There is currently no tax relief programme to encourage angel investments, by contrast with other countries with a successful startup ecosystem. • Most EU grants are only available in provincial regions and they often include restrictions that may distort the business model of startups. • There are few professional accelerators. • There are few entrepreneurs with international experience and there are few experienced and successful investors able to pass on their experience.
Opportunities	Threats
<ul style="list-style-type: none"> • Learning from former experiences, investors can invest their capital at better conditions, with higher chances of success. • Adopting development models related to international financing patterns. • Due to the accelerators and mentor programmes (among other factors), 	<ul style="list-style-type: none"> • Startups fail to choose the right sources of financing, which distorts their development and reduces the number of sustainably growing startup companies. • Due to the system of grants, a lot of startups have specialised in competing for government grants. • The ratio of international capital

<p>startups and SMEs are not more capable of attracting capital.</p> <ul style="list-style-type: none"> • A review of distribution, accessibility and the framework system of grants may generate new suggestions. • By filling in gaps in the financing infrastructure, businesses will have fast access to capital and be able to grow quickly. • The activities of some well-known angel investors are becoming apparent (e.g. Power Angels and the Hungarian Business Angel Network). • Tens of billions of Hungarian forints will be available to launch new government capital programmes in the near future, which will also be available in Budapest, while most of them will be used for early-stage financing. 	<p>remains negligible, i.e. the startup ecosystem will remain deficient in terms of foreign resources (networking, know-how).</p> <ul style="list-style-type: none"> • Hungarian startups will skip the Hungarian ecosystem, building up their businesses abroad from the beginning unless they find Hungarian investors sufficiently experienced and/or their conditions sufficiently attractive.
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3. The system of objectives under the strategy

3.1. Overall vision

It is a cliché, but true nonetheless, that technological development destroys, upsets and transforms entire sectors of the economy. While changing economic mechanisms, it exerts a serious influence on the structure of society. That evolution, however, offers possibilities apart from the dangers. A responsible, flexible and modern regulator is able to identify both at the same time, creating opportunities by turning a challenge into an advantage.

The Digital Startup Strategy of Hungary formulates the Government's vision of Hungarian digital enterprises up to 2020. First and foremost, it prefers a system of regulation that is flexible and open toward the changes involved by new technologies, recognising the competitive advantage of the ability to respond rapidly in the global economy.

According to the vision under the strategy, by 2020, a thriving Hungarian startup ecosystem will have been developed, which:

- ensures that the indispensable institutions of a startup ecosystem (business incubators, mentor networks etc.) should emerge and strengthen;
- ensures the availability of **sufficient funding for startup companies** at various stages of their lifecycles from private investors, credit institutions and refundable and non-refundable government/Union financing;
- ensures a **business environment** that supports, rather than hinders, the establishment, entry to the market and development of startup companies in a targeted manner;
- encourages the strengthening of **entrepreneurship** on all levels of education, improves awareness of being an entrepreneur and self-employment and the perception of entrepreneurs by the society at large;
- supports the **development of** digital, linguistic, communication and marketing **competencies** in all start-up companies;
- helps as many Hungarian businesses as possible to realise that various **forms of cooperation** (clusters, cooperatives and other partnerships) represent a substantial reserve in terms of competitiveness.

The regulator is also aware of the fact that, between them, the small size of the Hungarian market and the low entry threshold for digital enterprises have the result that Hungarian businesses targeting global markets from the start will have a better chance of growing big. Since it is looking for breakout points, it gives priority to the development of such businesses.

In 2020, while the Hungarian startup ecosystem is not afraid to experiment on a new terrain, it is also aware of the industries where it has the most authenticity and the segments where its entrepreneurs may be among the best worldwide. By that time, as role models and taking an active role in building the startup ecosystem, the world's best have helped to raise a new generation of entrepreneurs, who are embedded in an international network and in touch with their role models at the same time. A generation full of confidence and not afraid of failure, who speak English as a matter of course.

Their enterprises have access to financing across all stages of their lifecycle, whether from Hungarian, US or Israeli investors. The latter may be reached through the networks of Hungarian investors as, in five years time, there will be a lot more of Hungarian investors (both angels and institutional investors) sharing investments with foreign partners.

Consisting of multiple actors, the ecosystem constitutes a system. In the digital Hungary of 2020, such stakeholders will not be individual actors who have met by chance as, by that time, there will have emerged those channels between universities and accelerators, Hungarian and foreign investors, municipal governments and startups that are indispensable

in order to make Budapest and Hungary attractive for the most talented startup entrepreneurs worldwide.

Despite their achievements, this new group of confident tech entrepreneurs will not be arrogant. They will be aware of the need to integrate entrepreneurs left out of the fast evolution of digital businesses, particularly women and people over 45, in the development, as failing to do so will, on the long term, be harmful to society. Therefore, in cooperation with government institutions and initiatives, it will launch programmes to help drop-outs to be involved in digitalisation.

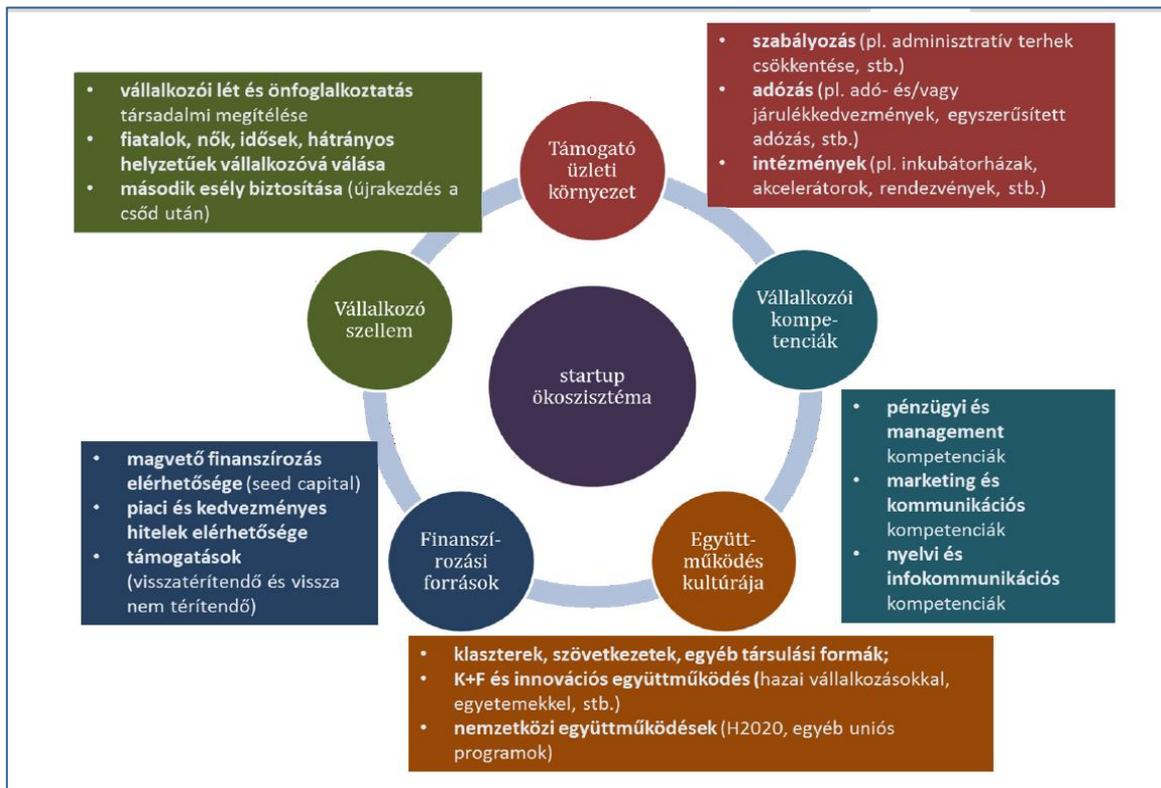
The vision outlined above is not a dream. Indeed, at this very moment, dozens of countries are investing an enormous energy into implementing visions similar to the above, without sparing time or money. We are part of a competition. The Digital Startup Strategy of Hungary aims at providing an opportunity to take the lead in that competition.

3.2. Overall strategic objectives

The differences between the current situation, described in the *Situation assessment*, and the target to be achieved during between 2016 and 2020, as presented in the *Overall vision* chapter, mark out the framework of the strategy's system of objectives. In technical terms, building on the 'Strengths' of the SWOT analysis for each pier, the strategy aims to eliminate the factors identified as 'Weaknesses' and to take advantage of the 'Opportunities' in order to avoid or to minimise 'Risks'.

A strategic approach is proposed which is suitable for the removal of factors curbing development, regarding the ecosystem as a whole, and assigns clear indicators to the interventions, breaking down the overall strategic objectives to objectives assigned to each pier.

As the outcome of the above, the **overall strategic objective of the Digital Startup Strategy of Hungary** is to ensure a balanced development of the startup ecosystem by strengthening entrepreneurship, entrepreneurial competencies and the culture of cooperation, developing a supportive business environment and making available sources of financing in a targeted manner in order to enable that the beneficial effects of the establishment and development of innovative businesses with a substantial potential for growth contribute to the international competitiveness of the Hungarian national economy.



The piers of the Digital Startup Strategy of Hungary

3.3. Objectives under each pier

In terms of the various components of the ecosystem (and the pier structure of this strategy), it means the following: (the objectives by each pier are presented in a single structure, i.e. the overall objective related to the pier in question is presented first, followed by the system of objectives according to the pier components).

Note: quite a few of the indicators required in order to monitor development are currently not being measured. The Startup Hungary centre for methodology and coordination, mentioned among the strategic instruments, may provide assistance with that issue.

3.3.1. Supportive business environment

Overall objective:

The business environment should support, rather than hinder, the establishment, entry to the market and development of startup companies in a targeted manner.

Objectives affecting the legislative and tax systems:

- investment into early-stage businesses should become attractive to startup investors (encouraging business angels);
- supporting angel investor networks;
- simplifying the conditions of being an entrepreneur or self-employed and developing preferential social security payment schemes for early-stage startups;
- creating the opportunity for offering business shares and stocks simply and at a preferential tax rate in order to facilitate fast-growing startups, which have not yet achieved steady growth, to attract good-quality workforce and to retain their workers;
- in addition to simplifying administrative and tax burdens, a consistent and efficient information platform must be developed in order to support the lawful operation of businesses, while direct and pro-active communication must be ensured between the authorities and entrepreneurs;
- initially vulnerable startups that have a large growth potential yet require a longer research and development phase should evolve in a congenial regulatory environment.

The 'soft' side of supportive environment:

- emphasising role models extensively;
- increased emphasis in the media on the benefits of being an entrepreneur; should present inspiring success stories through role models;
- mapping the support environment of the Hungarian startup ecosystem and ensuring the widest possible accessibility of information related to the support environment;
- supportive city marketing and attracting foreign startups to Hungary;
- strengthening the links between large enterprises and startups;
- widening the range of events lining up international speakers;
- efficient cooperation between municipal governments/the central government and interest organisations.

Indicators:

Pier	Indicator	Base value (year)	Target value (year)
Supportive business environment	Number of accelerators/incubators (Budapest)	13 (2016) ⁶	25 (2020)
	Number of community office spaces (Budapest)	13 (2016) ⁷	20 (2020)
	Number of accelerators sponsored by large companies	4 (2016)	10 (2020)
	Number of foreign startups operating in Hungary	n/a (2016)	+ 30 % (2020)
	(Annual) number of international startup competitions	n/a (2016)	+50 % (2020)
	World Economic Forum ranking: the effect of the fiscal environment on the willingness to invest	120th place/140 (2015) ⁸	50th position or higher (2020)
	World Economic Forum ranking: the effect of the fiscal environment on employment	117th place/140 (2015) ⁹	50th position or higher (2020)

3.3.2. Entrepreneurship
Overall objective:

With a view to strengthening entrepreneurship, the social perception of entrepreneurs must be improved, persons belonging to communities disadvantaged in terms of entrepreneurship must be assisted in becoming entrepreneurs, and an entrepreneurial approach must be reinforced and risk-taking and the assumption of responsibility must be encouraged at all levels of education. Awareness of being an entrepreneur or self-employed must be promoted in all groups of society, presenting it as a realistic alternative.

Strengthening entrepreneurship:

⁶ Based on data collected by the Working Group.

⁷ Based on data collected by the Working Group.

⁸ [World Economic Forum rankings.](#)

⁹ [World Economic Forum rankings.](#)

- By strengthening entrepreneurship (e.g. 'entrepreneurship' weeks), we should achieve a better ranking in similar international surveys in public education, vocational training, higher education and adult education.
- Making the lifestyle of entrepreneurs attractive on all levels of the educational system.
- Presenting and encouraging risk-taking, experimenting and the assumption of responsibility as important values should become an essential part of all levels of education.
- Reverse 'brain drain': attracting foreign talent and entrepreneurs to Hungary through nation-wide programs and legislation (e.g. Startup Budapest programme, Startup Visa, see the chapter on Strategic instruments), which will in turn positively affect entrepreneurship and knowledge among Hungarians.

Improving the perception of entrepreneurship:

- The perception of being an entrepreneur or self-employed should remarkably improve by 2020.
- The level of starting a business as a desirable career choice should increase by 2020 according to statistics shown among the indicators.
- Media attention concerning entrepreneurs should reach the EU average by 2020.
- The stories of positive role models should reach a higher number of people.

Supporting starters and restarters:

- The number of young entrepreneurs should increase at a significant rate by 2020.
- There should be a higher number of targeted programmes and campaigns to help 45+ persons become entrepreneurs and thus increase the ratio of entrepreneurs in that age group (too).
- There should be more targeted programmes and campaigns to help women become entrepreneurs and thus increase the ratio of women among entrepreneurs (too).
- According to statistics included in the indicator, the fear of failure should decrease significantly among Hungarian people by 2020.
- The process of winding up a business should be streamlined and speeded up when entrepreneurs intend to wind up their businesses through final settlement.

- Raising awareness concerning the potential offered by innovative digital technologies (data technology, Big Data, IoT, Cloud etc.) among would-be entrepreneurs.

Indicators:

The indicators assigned to the target indicators have been based on the data and statistics discussed in the *Situation assessment*. Since this is the field where the gap between Hungary and the EU average is the greatest, the target for 2020 is to catch up with the EU average for most indicators.

Pier	Indicator	Base value (year)	Target value (year)
Entrepreneurship	Entrepreneurship	188.67 (2014)	145.8 (2020) ¹⁰
	Perception of being an entrepreneur	45.7 % (2013) ¹¹	56.9 % (2020) ¹²
	Media attention on entrepreneurship	28.4 % (2013) ¹³	49 % (2020) ¹⁴
	Starting a business, as a desirable career objective	47 % (2016)	57 % (2020) ¹⁵
	Level of supporting restarters	69 % (2013)	82 % (2020) ¹⁶
	Fear of failure	44.8 % (2013)	39.8 % (2020) ¹⁷
	Number of young entrepreneurs	3.7 % (2013) ¹⁸	10 % (2020)
	Number of entrepreneurs aged 40+	n/a	+20 % (2020)
	Number of female startup founders/co-founders	n/a	+20 % (2020)
	Number of foreign entrepreneurs	n/a	+10 % (2020)

¹⁰ Average Entrepreneurism score - The Global Entrepreneurial Report (Emerging Wealth) 2014, Oracle Capital Group

¹¹ European Commission: SBA Report, 2014: Hungary; page 7

¹² EU average.

¹³ European Commission: SBA Report, 2014: Hungary; page 7

¹⁴ EU average.

¹⁵ Entrepreneurship Education at School in Europe; Education, Audiovisual and Culture Executive Agency, 2016. EU average.

¹⁶ EU average.

¹⁷ EU average.

¹⁸ FIVOSZ survey, 2013. (Source: Ilona Kovács: Changes in entrepreneurship and its motivations in the SME sector; 2014. page 19)

3.3.3. Entrepreneurial competencies

Overall objective:

No startup company should be squeezed out of the startup ecosystem due to a lack of entrepreneurial competencies.

The development of entrepreneurial competencies is closely linked to the educational system, discussed in detail by the Digital Education Strategy of Hungary (DES). However, since the DES focuses primarily on developing digital competencies, the DSS considers it important to develop entrepreneurial competencies, which are critical for the development of startups. **The development of the startup ecosystem may be affected by the educational strategy with regard to the following questions:**

- Is enterprise included in the national curricula as a topic? Has it been integrated into other disciplines?
- Do regulators support the training of key entrepreneurial skills at school, including the development of the required skills and mentality?
- Do entrepreneurship training programmes exist outside the school system? Do such programmes take people with a low level of education and people living in rural areas into consideration?
- Do strategic objectives exist for implementing a wider range of interactive and experience-based educational methods in the educational system?
- Do schools exist specifically for the training of business experts and local entrepreneurs?
- Does the explicitly acknowledged objective of becoming an entrepreneur appear in the national syllabuses for vocational, technical and commercial secondary education?
- Have special training and incentive programmes been included in the training of instructors of entrepreneurial skills?
- Are entrepreneurship activities outside the classroom (e.g. student activities, business plan competitions, business development programmes etc.) supported?
- Has a national network of entrepreneurship teachers been set up with a view to facilitating the application of programmes?

As far as the development of competencies outside the educational system is concerned, the strategy should be based on the following questions:

- Are regulators aware of the special needs of young people, women and other target groups?

- Do career advisers use available local case studies and the materials of entrepreneurship courses?
- Do scientific institutions receive financing in order to enable them to provide trainings, advising, diagnostic and consulting services to young entrepreneurs?
- Can private-sector financing be mobilised for the training of entrepreneurial skills?
- Are mentor and coaching programmes available for the development of entrepreneurial skills?

Consequently, the strategy proposes the following **system of objectives** for the development of entrepreneurial competencies:

- inclusion of the development of entrepreneurial competencies into education within and outside the school system;
- supporting efficient entrepreneurial careers;
- teacher training;
- private sector partnerships.

Indicators:

Pier	Indicator	Base value (year)	Target value (year)
Entrepreneurial competencies	Ratio of the participants of entrepreneurial competency training programmes in primary education	n/a (2015)	+20 % (2020)
	Ratio of the participants of entrepreneurial competency training programmes in secondary education	n/a (2015)	+15 % (2020)
	Ratio of the participants of entrepreneurial competency training programmes in higher education	n/a (2015)	+10 % (2020)
	Number of university spin-offs	n/a (2015)	+25 % (2020)
	Number of nation-wide networking events	n/a /year (2015)	+12/year (2020)
	Ratio of the participants of entrepreneurship trainings outside the school system	n/a (2015)	+10 % (2020)
	Number of teachers participating in entrepreneurship training	n/a (2015)	+10 % (2020)

	Ratio of the participants of language courses (business English)	n/a (2015)	+10 % (2020)
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Note: the proposed indicators are currently not being measured; target figures specified in the table only provide a reference point regarding the direction and dynamics of growth. The monitoring activity of the Startup Hungary centre for methodology and coordination, mentioned among the strategic instruments, may resolve the problem of indicators not being measured.

3.3.4. The culture of cooperation

Overall objective:

As many Hungarian businesses as possible should realise that various forms of cooperation represent a substantial reserve in terms of competitiveness.

The primary objective is to **strengthen the culture of cooperation, clusters as well as inter-institutional and interdisciplinary relations, both within Hungary and across the border.**

Hungarian involvement should increase in major R&D&I projects and tenders implemented in international cooperation.

The highest possible number of Hungarian startups should reach global startup and business hubs and as many global technology companies should open development and training centres in Hungary as possible.

In order to achieve the overall objective, the following targets must be met:

- The spreading and specialisation of accelerator programmes.
- The inclusion of Hungarian startups in foreign accelerators.
- Strengthening the cooperation between Hungarian businesses, the academic community and NGOs.
- Supporting cooperation between startups, large enterprises and accelerators.
- Supporting SMEs to set up their own spin-off companies.
- Strengthening cooperation between INDUSTRY 4.0 companies and startups in order to develop B2B startups.
- Supporting and encouraging clusters, cooperatives and other types of partnership in order to ensure that they are created on a continuous basis, in great numbers and in an organised manner.

- Presenting and popularising EU calls for proposals for innovation and consortium projects to the public at large, presenting best practices and Hungarian projects and businesses having been awarded co-financing in order to achieve that as many proposals are submitted to such calls for proposals by Hungarian businesses and that there should be a lot more successful applicants than at present.
- Supporting partnerships in higher education and promoting the creating of university research groups and spin-off companies.
- Encouraging, supporting and strengthening cooperation between higher education and the market (ICT companies and educational institutions) by setting up research and competence centres and supporting export capacities.
- Organising a high number of meetups and partner networking events, involving all relevant stakeholders (startups, higher-education institutions, government bodies, SMEs, large enterprises etc.).
- Creating a higher-education research archive in order to ensure the visibility of which institution or research group is engaging in research in which fields.
- Organising and supporting interdisciplinary events in higher education.

Indicators:

Pier	Indicator	Base value (year)	Target value (year)
The culture of cooperation	Number of organisations that have successfully participated in the H2020 programme (successful candidates)	172 (by 2015) ¹⁹	600 (2020)
	Number and specialisation of accelerator programmes	12 (2014)	30 (2020)
	Number of organisations having applied under the H2020 programme	1841 (by 2015) ²⁰	3500 (2020)
	Number of M&A transactions	130 (2015) ²¹	250 (2020)
	Number of patents submitted to the European Patent Office	176 (2015)	300 (2020)
	Number of relevant startup meetups and conferences	30-40 / year	100 / year

¹⁹ [Horizon2020 Country Profile.](#)

²⁰ [Horizon2020 Country Profile.](#)

²¹ E&Y – M&A Barometer 2015 CSE.

	Interdisciplinary events in higher education	n/a (2016)	Yes
	Higher-education research archive	-	Yes
	Number of research sites in higher education	~ 1300 (2014)	2500 (2020)

Note: some of the suggested indicators are currently not being measured; the monitoring activity of the Startup Hungary centre for methodology and coordination, mentioned among the strategic instruments, may resolve that problem.

3.3.5. Sources of financing

Overall objective:

Sufficient funding should be available to startup companies at various stages of their lifecycles from private investors, credit institutions and refundable and non-refundable government/EU financing.

In that context, it is indispensable that the distribution of government funds should function in a fast and transparent manner (coordinated with global trends), and that such government funds should reinforce motivation, ensuring that applicant companies seek financing for an existing project idea rather than the other way round.

In order to achieve the overall objective, the following targets must be met:

- Supporting proven businesses with a high growth potential (scale ups) in a targeted manner and accelerating their growth.
- Managing financing-related problems of startup companies, providing financing for their development (primarily as some sort of seed financing, indispensable for startups to get going).
- Developing co-investment schemes and thus providing financing while reducing risks for angel investors.
- Improving the ability of startups and SMEs to attract risk capital.
- Providing sufficient funds on a continuous basis for development projects to extend e-services to the entire public administration system, all background institutions as well as all components of regional and technical administration.
- Providing refundable and non-refundable financing.

- Transforming the new JEREMIE programme in order to improve its efficiency and increase the number of exits.

Indicators:

Pier	Indicator	Base value (year)	Target value (year)
Sources of financing	Industry-specific awareness-raising programme to develop, shape and reinforce an entrepreneurial mindset	n/a (2016)	Yes
	Angel investment incentive programme	n/a (2016)	Yes
	Entrepreneurs' clubs, joint investments	n/a (2016)	+ 100 % (2020)
	Number of businesses included in Hungarian accelerator programmes	~ 160-200 / year	500 / year
	Number of angel investors	80-100 (2015)	350 (2020)
	Number of angel investments	~ 15 (2016)	~ 58 (2020)
	Amount of angel investments	~ €3 million (2016)	~ €20 million (2020)
	Ratio of Hungarian ICT SMEs having received risk capital	n/a (2016)	EU average (2020)
	Number of businesses having received a risk capital investment (from institutional investors) (Source: HVCA)	109 (2015) ²²	200 (2020)
	Total amount of investment by institutional risk capital investors (Source: HVCA)	EUR 102.8 million (2015) ²³	EUR 200 million (2020)
	Number of exits (Source: HVCA)	15 (2015) ²⁴	25 (2020)

Note: some of the suggested indicators are currently not being measured; the monitoring activity of the Startup Hungary centre for methodology and coordination, mentioned among the strategic instruments, may resolve that problem.

²² [HVCA Report.](#)

²³ [HVCA Report.](#)

²⁴ [HVCA Report.](#)

4. The system of tools under the strategy

4.1. Overall, systemic proposals

The strategy envisages the following horizontal strategic instruments that cannot be classified under any pier:

- DSS Action Plan
- Startup Hungary Centre for Methodology and Coordination

Horizontal component	Instrument	Startup Hungary Centre for Methodology and Coordination
	Nature of instrument	development policy
Objective of measure	Breaking down the measures of the strategy into action plans and coordinating the parties involved in their implementation. A horizontal centre that bridges piers, it ensures and supports the coordinated and integrated implementation of the system of instruments.	
Content of the measure	<ul style="list-style-type: none"> • Develops the detailed implementation plan of the DSS and coordinates implementation. • Develops and operates the DSS monitoring system. • Is responsible for breaking down the strategy instruments into action plans, for implementing them where appropriate and for submitting expert documents for the bodies/institutions to be involved under the Strategy. • Coordinates the programmes under the strategy and carries out the technical supervision of the implementation of various projects. • Monitors and measures the proposed indicators in order to enable the monitoring of the development of the ecosystem. • On that basis, puts forward policy proposals and guidances to the regulator. • Coordinates and mediates between the measures of various ministries that affect startups. 	
Proposed indicator(s)	Establishing the Centre (i/n).	

Other remarks	-	
Horizontal component	Instrument	DSS Action Plan
	Nature of instrument	development policy
Objective of measure	Putting the measures of the strategy into operation, break them down by persons in charge and deadlines and accurately determine the activities required for their implementation.	
Content of the measure	<p>With a view to implementing the Strategy, drawing up a detailed action plan that sets out specific tasks, the persons in charge and deadlines.</p> <p>Within the action plan, specific measures are drawn up in cooperation with the Aid Monitoring Office (TVI) on the basis of Section 7 of Government Decree No 37/2011 (III. 22.).</p>	
Proposed indicator(s)	Drawing up the Action Plan (i/n).	
Other remarks	-	

4.2. Instruments under each pier

The strategic instruments by each pier are presented in a single structure: in addition to setting out the objective and content of the measure, the person in charge, the budget and the schedule of the project and success indicators are also shown where possible.

4.2.1. Supportive business environment

Improving the regulatory environment of startups

- Reducing the social security burden of business starters.
- Supporting the resumption of operation (faster liquidation of businesses).
- Preferential taxation of exchange gain achieved on the sale of business shares for private individuals.
- Call option to acquire a business share for private individuals.
- Setting up Special Economic Zones (–SEZ).

- Extensive communication of government programmes and grant opportunities.
- Eliminating duplications.
- The proposed instruments in detail:

Supportive business environment	Instrument	Reducing the social security burden of business starters
	Nature of instrument	public policy and regulation
Objective of measure	Analysis and impact assessment of how reducing employment-related taxes and social security payments would encourage people to become full-time entrepreneurs and of its potential impact on competitiveness, employment and the budget.	
Content of the measure	<p>Under the allowance to be analysed, a new, 9th group of beneficiaries would be added to the 8 groups of beneficiaries currently under the Job Protection Action Plan (workers under 25; workers above 55; workers working in unskilled jobs; long-term job-seekers; workers with small children; agricultural workers; enterprises operating in free enterprise zones; researchers employed).</p> <p>That new group of beneficiaries consists of workers employed by early-stage enterprises. It should be noted that while the current legislation does not enable the provision of allowances to the self-employed, the social security allowance of early-stage businesses must be extended to partnerships (i.e. to persons working for their own companies and to self-employed persons).</p> <p>The amount of the allowance (which is equivalent to the employment of researchers) is 28 % of the gross wage (up to HUF 500,000) in the first two years of the business and 14.5 % from the third year.</p> <p>Definition of early-stage enterprises:</p> <ul style="list-style-type: none"> • an unlisted partnership not owned by any other company; • the undertaking has been established in the past 3 years; • the net annual turnover of the company does not exceed HUF 100 million; • the company has up to 20 full-time employees; • it has not received an investment from a venture capital fund; • the company does not have a participation (business share) in any other company. <p>According to the proposal, an early-stage company may receive the allowance with up to 3 employees.</p>	

Proposed indicator(s)	<p>Completion of the impact analysis (i/n)</p> <p>In case the measure gets implemented, the number of registered employees and the number of new enterprises.</p>
Other remarks	<p>Apart from promoting the growth of businesses and encouraging people to start a business, the solution has two positive side-effects:</p> <ul style="list-style-type: none"> • since unregistered, black employment is very common among start-up businesses, the allowance is expected to have a significant whitening effect, resulting in an increase in white employment indicators; • the measure will be conducive to teaching entrepreneurs to abide by the laws from the start. Entrepreneurs who have employed workers legally from the start are much more likely to continue that practice after their businesses have achieved a high turnover over the years.

Supportive business environment	Instrument	Supporting the resumption of operation (faster liquidation of businesses)
	Nature of instrument	regulation
Objective of measure	Facilitating the circumstances of resumption by reducing paper-based activities related to the termination of companies left over from unsuccessful attempts at running a business, and by simplifying the liquidation procedure.	
Content of the measure	It will significantly simplify the liquidation of a business if the scope of 'simplified liquidation' is extended to incorporated entities (at least llc's). Thus the llc's whose assets are sufficient to satisfy creditors and public dues could be liquidated more simply and in a significantly shorter time compared to the current length procedure.	
Proposed indicator(s)	Reducing the fear of failure according to the statistics included in the indicators.	
Other remarks	<p>Experimenting and failure are inherently involved in startup entrepreneurship. They must be digested, their lessons must be learnt and a new enterprise can be built based on these experiences. A successful startup entrepreneur may find the appropriate enterprise/business model following several failed attempts. The administrative burdens resulting from past failures and dragging on for years make that experimentation even more difficult. Apart from streamlining the liquidation of companies, it is also important to change the way failure is perceived by society. While managing that change requires coordinated action in the long term, it is an important challenge and a cultural issue.</p>	

Supportive business environment	Instrument	Preferential taxation of exchange gain achieved on the sale of business shares for private individuals
	Nature of instrument	public policy and regulation
Objective of measure	Encouraging private individuals to act as angel investors, consultants and other helpers.	
Content of the measure	<p>Analyses and impact assessment of the potential effect on competitiveness, employment and the budget of the following: if an investment made through businesses is sold at a profit, following a holding period of 12 months, a notified business share would grant exemption from corporate tax.</p> <p>The measure to be analysed would also introduce notified business share into personal tax. In other words, if an individual subject to personal income tax in Hungary</p> <ul style="list-style-type: none"> • acquires a business share of 10 % or more • in a Hungarian incorporated entity or in a foreign entity (with the exception of a controlled foreign company, i.e. an offshore company) <p>and such acquisition is notified to the tax authority within 75 days, such individual is exempt from personal income tax when the notified business share is sold after a 12-month holding period. The exemption also applies to health insurance payment.</p>	
Proposed indicator(s)	Completion of the impact analysis (i/n).	
Other remarks	-	

Supportive business environment	Instrument	Call option to acquire a business share for private individuals
	Nature of instrument	regulation
Objective of measure	Encouraging private individuals to act as angel investors, consultants and other helpers.	

Content of the measure	As the main rule, the call option related to business shares becomes subject to tax at the time the option is exercised. Tax liability is governed by the rules concerning exchange gain. In other words, the objective of the measure is achieved through the measure ‘preferential taxation of exchange gain achieved on the sale of a business share for private individuals’ measure.
Proposed indicator(s)	Introduction of the measure (i/n).
Other remarks	-

Supportive business environment	Instrument	Special Economic (Development) Zone
	Nature of instrument	of regulation / development policy
Objective of measure	<p>Among its other goals, for high added-value Hungarian and Central European SMEs implementing technological/R&D&I projects, the measure aims to create an environment, i.e. an economic ecosystem</p> <ul style="list-style-type: none"> - ensuring competitive advantages (among other things) for the foundation and growth of enterprises, their entry to the regional, European or global markets, the development of their ability to export goods and services and their successful further growth (including going public where appropriate); - supporting economic growth by reducing burdens, taxes and social security payments; - helping their operation through professional services, <ul style="list-style-type: none"> • able to keep the available highly qualified ‘grey matter’ within the country, and • to attract professionals from the region in a broader sense (the Carpathian Basin/CEE/SEE) and to lure back professionals having left the country/region. 	
Content of the measure	<p>A Special Economic Zone enables the reduction of tax and social security burdens for startups specialising in specific activities (R&D&I), which require research and innovation.</p> <p>Essentially, a Special Economic (Development) Zone (‘Zone’) has a double function:</p>	

	<ul style="list-style-type: none"> - while it requires a <u>legislative environment</u> that assumes efficient and competitive operation, - it includes a <u>business model</u> requiring initial support yet subsequently assuming independent operation on the market. <p>The legislation applicable to the Zone (including in particular the rules concerning budgetary burdens, i.e. tax, duty and social security payments) is stable and cannot be changed to the detriment of businesses operating within the Zone ('Zone Companies'), which is guaranteed by the contract between the Zone and Zone Companies. A contractual obligation is created between Zone Companies and the Zone (representing the Government/the Hungarian State) and includes guarantees and sanctions for potential breaches of the contract. The aim of both parties is to maintain long-term cooperation.</p> <p>The Zone exerts its effect enhancing competitiveness if the benefits it ensures are guaranteed in the long run. Therefore, the measure's lifecycle should be 20(+) years, whereas on entering the Zone, Zone Companies should commit themselves to stay in the Zone for a minimum of 5(+) years. The primary location for the Zone should be Budapest, where all the benefits can be exploited and synergy effects can be achieved to the best effect. Alternatively, in addition to the Budapest hub, sub-centres can be set up in other cities, typically with an industrial or academic centre (e.g. Debrecen, Győr, Szeged).</p> <p>Based on the best international practices, there are strict conditions for membership:</p> <ol style="list-style-type: none"> 1) R&D&I activity in a preferred industry (research plan, business plan, Zone accreditation etc.); 2) availability of Zone permit; 3) payment of the annual charge; 4) commitment to stay within the Zone for a minimum period of 5 years; 5) attesting that the conditions of membership are met on a regular basis (e.g. annually).
Proposed indicator(s)	<ul style="list-style-type: none"> • number of companies established within the Zone; • number of companies operating within the Zone; • number of jobs created by the companies established within the Zone; • number of companies having received capital investment within the Zone and, subsequently, the number of successful exits.

Other remarks	For the establishment of Special Economic Zones, established foreign models (e.g. UK, France, Poland, Australia etc.) should be taken into consideration.
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Supportive business environment	Instrument	Extensive communication of government programmes and grant opportunities
	Nature of instrument	public policy
Objective of measure	Exploiting existing government grant opportunities in a more efficient manner.	
Content of the measure	In order to ensure that existing or future government projects and programmes should be communicated to the target public as efficiently as possible, they must be communicated through the channels best suiting the mentality and interests of the potential beneficiaries (e.g. Facebook, Twitter). Moreover, it is important to review the communication channels within the system of institutions and to develop an efficiency-enhancing programme as a result.	
Proposed indicator(s)	Number of times the media covers the issue; access.	
Other remarks	It is not easy for the users, i.e. entrepreneurs to access the system of grants in a simple and readily comprehensible manner on a single website. <i>(See the Situation assessment chapter for the solution employed by the Estonian government and the Budapest Makers proposal.)</i>	

Supportive business environment	Instrument	Eliminating duplication
	Nature of instrument	public policy
Objective of measure	Completely eliminating or minimising duplication within the system of institutions.	
Content of the measure	In order to ensure the efficient implementation of programmes and activities and accountability, it is indispensable to identify the persons in charge. The currently fragmented and functionally clumsy model must be reviewed and a more consistent and efficient division of labour between the stakeholders must be found while duplications must be eliminated or minimised.	

Proposed indicator(s)	-
Other remarks	-

4.2.2. Entrepreneurship

- Supporting female entrepreneurs/co-founders.
- Raising awareness of the potentials of innovative digital technologies.
- Making the lifestyle of entrepreneurs attractive within the educational system.
- Improving the image of starting over at running a business.

The proposed instruments in detail:

Entrepreneurship	Instrument	Supporting female entrepreneurs/co-founders
	Nature of instrument	public policy
Objective of measure	Increasing the number of female startup entrepreneurs. The number of women should reach a substantial level in the technology sector, dominated by males, in order to prevent the new technological elite from reproducing gender inequalities.	
Content of the measure	<p>While supporting existing market initiatives, announcing government programmes (conferences, competitions, events etc.); with regard to grants, an extra score should be added for female founders etc. The main directions of the measure are as follows:</p> <ol style="list-style-type: none"> 1. a separate, dedicated fund for self-employed women; 2. competency development – a network to support female entrepreneurs; 3. setting up a female lending network with non-profit micro-financing. <p>The measure requires further elaboration.</p>	
Proposed indicator(s)	Number of female startup entrepreneurs/women working for startups.	

Other remarks	-
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Entrepreneurship	Instrument	Raising awareness of the potentials of innovative digital technologies
	Nature of instrument	public policy
Objective of measure	Raising the awareness of potential offered by innovative digital technologies (data technology, Big Data, IoT, Cloud etc.) among would-be entrepreneurs.	
Content of the measure	Underpinning the necessity of developing digital competences, presenting their potential and developing digital competences. The Digital Education Strategy of Hungary (DES) sets out measures concerning the latter, on all levels of the educational system.	
Proposed indicator(s)	Level of digital competence of startup companies.	
Other remarks	-	

Entrepreneurship	Instrument	Making the lifestyle of entrepreneurs attractive within the educational system
	Nature of instrument	public policy
Objective of measure	Strengthening programmes to introduce the lifestyle of entrepreneurs at school and outside the school system.	
Content of the measure	Introducing trainings, thematic weeks etc. to strengthen entrepreneurial spirit at the public education, vocational training, higher-education and adult education systems, including in particular: <ul style="list-style-type: none"> • emphasising role models extensively; • placing an increased emphasis in the media on the benefits of being an entrepreneur; • presenting inspiring success stories through role models. 	

Proposed indicator(s)	Ratio of students considering becoming an entrepreneur as a potential career choice.
Other remarks	-

Entrepreneurship	Instrument	Improving the image of starting over at running a business
	Nature of instrument	public policy
Objective of measure	Making people understand that starting a business, a startup business in particular involves risks and, therefore, failures are not necessarily indicators of your incompetence. Everyone deserves another chance.	
Content of the measure	Awareness-raising and communication campaign with a view to improving the image of starting over.	
Proposed indicator(s)	Ratio of persons regarding starting a new business as a natural response by an entrepreneur.	
Other remarks	-	

4.2.3. Entrepreneurial competencies

Developing entrepreneurial competencies

- E-training – Programme for developing entrepreneurial competencies.
- Entrepreneurship HUBs of Hungary.
- National E-skill Development Tools.
- Train the Trainer.
- Entrepreneurial competency development platform.

The proposed instruments in detail:

Entrepreneurial competencies	Instrument	E-training – Programme for developing entrepreneurial competencies
	Nature of instrument	public policy
Objective of measure	To reach and support the widest possible age group and group of interested persons with a view to developing the appropriate and necessary competencies.	
Content of the measure	<p>Creating a comprehensive and complex entrepreneurial competence development programme in and out of the school system with a view to developing digital, linguistic, communication, marketing, financial and management competences. In accordance with the scheme to develop financial consciousness, proposed by the Ministry of National Economy to the Government, a training package must be produced with the support of the competent ministry and made available to the target group free of charge. It should be based on a more practical approach that goes beyond basic entrepreneurial skills and focuses on actual needs and requirements and provide training in the following areas:</p> <p>developing the marketing, finances, linguistic (essentially business English), communication and digital skills of startup entrepreneurs. The syllabus should be based on best international practices and operated along with the instrument targeting the continuous training of trainers and with the programme to develop the training material.</p> <p>Possible ways must be considered to incorporate in school education, as a compulsory or optional element, at least one practical class a week by having students develop a single major comprehensive project during term based on the skills acquired, in order to reinforce soft skills and the ability to accept failure.</p> <p>During the current review of the National Basic Curriculum (to be completed by 2019), particular attention should be paid to the development of entrepreneurial skills; Entrepreneurship Weeks must be held on a regular basis and similar thematic camps should be organised at summer Erzsébet Camps. Moreover, the strengthening of entrepreneurship and the development of entrepreneurial competencies must be included in the system of further education for teachers;</p> <p>Research (efficiency review) is required in order to validate the results</p>	

	<p>of efforts to date in terms of developing entrepreneurial competencies (and openness) in young people, considering that comparative international analyses tend to show the lowest results for Hungary.</p> <p>Similarly, with regard to non-school trainings, suitable incentives should be included in order to enable the quality assurance of non-school trainings, whether existing or to be created during the programme, by an easy, fast and efficient method, either through a self-controlling and automatic recommendation system or by another qualification procedure.</p> <p>Trainings should essentially have a practical focus, with an attempt to adjust them to the needs and abilities of the age group concerned. All training materials should also be accessible online and be suitable to be used in a self-education format.</p>
Proposed indicator(s)	<p>Ratio of participants of entrepreneurship trainings outside the school system.</p> <p>Ratio of participants of entrepreneurship trainings at school.</p>
Other remarks	<p>Trainings adjusted to the programmes of higher-education institutions should be developed based on and in addition to the programme of secondary education.</p>

Entrepreneurial competencies	Instrument	Entrepreneurship HUBs of Hungary
	Nature of instrument	public policy
Objective of measure	<p>To integrate, on a national level, and to provide support to existing or future training centres specialising in developing entrepreneurial competencies.</p>	
Content of the measure	<p>Based on a programme that was developed by the Ministry of National Economy but never put into practice, the possibility of setting up entrepreneurship centres must be reconsidered. Exploiting the synergies offered by networks, these entrepreneurship centres should be organised into a network. Having familiarised themselves with each other's projects, it would essentially enable the entrepreneurship centres within the network to allocate and use the required expertise and resources more easily.</p> <p>The earlier draft by the Ministry must be reviewed and its viable and value-adding components must be incorporated into the new</p>	

	<p>programme.</p> <p>Once the project is completed, a physical network of platforms may have been created as an addition to the virtual platform, which may enable the launching of non-school startup and entrepreneurship training. Proposals to be given chief priority include the ones that intend to utilise existing resources or rent existing real properties.</p> <p>The hubs would essentially be developed and supported based on a bottom-up scenario. According to local needs, a single Hub for several settlements or a several Hubs in a single settlement may be developed and supported. The primary focus should be on the more disadvantaged regions outside Central Hungary.</p>
Proposed indicator(s)	Number of competency development centres integrated into the national network.
Other remarks	-

Entrepreneurial competencies	Instrument	National E-skill Development Tools
	Nature of instrument	public policy
Objective of measure	Drawing up the training material for teaching basic entrepreneurial skills.	
Content of the measure	<p>Public-domain, quality-controlled educational materials should be created for the development of entrepreneurial skills and distributed to the relevant target groups.</p> <p>Trainings should essentially have a practical focus, with an attempt to adjust them to the needs and abilities of the age group concerned. All training materials should also be accessible online and be suitable to be used in a self-education format.</p> <p>The use of digital educational tools is a must; proper reasons must be offered for the use of any other tools.</p> <p>The main criterion is to create interesting and attractive content for young people; moreover, an attempt must be made to get across the 'give so you can receive' principle, to raise public awareness of entrepreneurship and to strengthen the ability to accept failure.</p>	

Proposed indicator(s)	Number of completed teaching materials.
Other remarks	Best international practice: training materials of Nesta of UK. The training materials should be developed in collaboration with all stakeholders and in cooperation with the e-training and Train the Trainer programmes.

Entrepreneurial competencies	Instrument	Train the Trainer
	Nature of instrument	public policy
Objective of measure	Providing up-to-date information to trainers involved in the complex training programme so they can efficiently develop entrepreneurial competencies.	
Content of the measure	<p>Developing and collating training modules, selecting appropriate experts and conducting trainings; passing on up-to-date knowledge in the form of brief and concise training modules.</p> <p>The training can be implemented as an adult training; its modules should preferably be developed in accordance with the basic entrepreneurial skills training material based on the training materials of Nesta of the UK (National E-skills Development Tools). The continuous updating and expansion of the knowledge of trainers in secondary and higher education are an indispensable prerequisite of the efficient development of entrepreneurial competencies.</p>	
Proposed indicator(s)	Number of teachers having participated in entrepreneurship training.	
Other remarks	Members of the target group should be involved in drawing up the training modules since this is the best way to integrate the needs, language, approach etc. of the target group into the materials.	

Entrepreneurial competencies	Instrument	Platform for entrepreneurial competency development
	Nature of instrument	public policy
Objective of measure	Establishing an appropriate platform for autonomous groups providing the best practical method for the development of entrepreneurial competencies.	
Content of the measure	Linking up youth, voluntary, mentor and expert networks and providing them with an accessible online platform for knowledge transfer and participation as well as in the community space where platform participants are present and actively involved.	
Proposed indicator(s)	The number of organisations and participants having joined the platform.	
Other remarks	-	

4.2.4. The culture of cooperation

To strengthen the links between Hungarian SMEs and large companies and between public administration and startups

- Opening of public data on a strategic level.
- Industry 4.0 startup – ecosystem development programme.
- Pre-commercial procurement (PcP).
- Spinoff incentive programme.

Attracting foreign startups to Hungary

- Startup Budapest Programme.
- Startup visa.

Promoting Hungarian startups abroad

- Silicon Valley inspiration programme.
- Programme to support presence in the Silicon Valley.

The proposed instruments in detail:

The culture of cooperation	Instrument	Opening of public data on a strategic level
	Nature of instrument	regulation
Objective of measure	Achieving a legislative and technological environment enabling that public data are shared with startups simply and rapidly.	
Content of the measure	<p>The data industry is one of the most dynamically growing industries of the present and the near future, growing at a rate seven times faster than other fast-growing ICT industries. Within the industry, public data play an extremely important role in the fields of collection, processing and access as well as in the development of services and products based on the above.</p> <p><u>Proposed areas of intervention:</u></p> <p><i>(Coordinated with the system of objectives under the NHIT White Book of Data Policy, the <u>National Geographical Data Infrastructure geo-portal and public data portal programme developed by the Lechner Knowledge Centre and the KKSZB (Central Government Service Bus) programme.</u>)</i></p> <p>Data asset survey</p> <p>Assessing and consolidating the data assets of municipal governments and local, regional and national bodies carrying out public functions and creating the framework for the systematic collection, recycling and development of data.</p> <p>While the scale of the programme is comprehensive, non-centralised solutions should also be considered. For market-based enterprises, the collection and processing of data may offer an opportunity equivalent to using existing and available data for development.</p> <ol style="list-style-type: none"> 1. Surveying data assets (data groups, data owners, data managers, collection methods, formats and protocols, metadata arrangement). 2. Consolidating data collection (arranging and standardising data groups, collection methods, sources and organisations). 3. Preparing data recycling (processing and database development). <p>Programme to utilise data assets</p> <p>Re-utilising data for service and product development and boosting the economy in cooperation with third parties.</p> <ol style="list-style-type: none"> 1. Demand-based utilisation (creating partnership for the collection and use of data, market analysis, provision of data to buyers and users on the 	

	<p>market).</p> <p>2. Supply-based utilisation (launching and operating hackathons and facilitating programmes, R&D and incubation activities in cooperation with third parties).</p> <p>Competence development</p> <p>Developing the organisational and knowledge bases of the municipal and public-service sectors in order to enable the strategic activity of municipal governments in connection with their data assets and data management. This will critically affect the utilisation of data for internal, public and business uses and activities in order to boost the economy and improve competitiveness.</p> <p>Creating data enabler platforms</p> <p>Creating basic infrastructures based on the collection and processing of data and offering a wide range of opportunities ('enabler platform' model, sensor systems linked to public utilities, infrastructure etc.). On a pilot level, project, neighbourhood, street, square, local or possibly district level, to be scaled up at a later date. Enabling the platforms for external uses. Launching incubation and development programmes based on the above.</p>
Proposed indicator(s)	<p>How many startups are created through the use of data? How many research projects are given a stimulus by the initiative? Non-profit initiatives increase the efficiency of specific urban functions which will function measurably more efficiently once the innovation has been implemented.</p>
Other remarks	<p>Hungarian references:</p> <ul style="list-style-type: none"> - White Book on Data Policy, 2016; - existing urban / corporate open data programmes; - existing hackathons; - relevant data owners. <p>International references:</p> <ul style="list-style-type: none"> - municipal and regional levels: Helsinki Region Infoshare, Forum Virium, French Tech Cities; - national programmes: data.gov; - international programmes bringing cities together: OASCities, FiWare, CitySDK, geeks 4 cities;

	- (municipal) organisational units: CTO, Digital Transformation Department.
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The culture of cooperation	Instrument	Industry 4.0 startup – ecosystem development programme
	Nature of instrument	public policy / development policy
Objective of measure	With a view to strengthening the Hungarian industrial startup community sensitive to digital innovation, new business models should be created on the basis of the technological platform of large companies in key segments of Hungarian industry with a global reach.	
Content of the measure	<p>Since large enterprises tend to function in an over-regulated structure that hinders the emergence of innovation situations, they are in need of flexible and innovative businesses. However, innovative Hungarian startups are currently rarely able to become integrated into the supplier value chains of traditional industrial structures. Encouraging links between startups and large enterprises is therefore extremely important for both parties.</p> <p>As part of the measure, the creation of large company accelerators should be facilitated and the establishment of a Startup Voucher programme, modelled on UK and Czech ideas, should be considered. Initiating the setting up of a fund based on the idea of the High-Tech Grünerfonds of Germany.</p>	
Proposed indicator(s)	-	
Other remarks	The financing needs of the INDUSTRY 4.0 startup programme should be made available under the 1st Priority of the GINOP. Similarly to the Silicon Valley inspiration programme, the INDUSTRY 4.0 startup programme should be adjusted to the INPUT programme (GINOP-3.1.3-15 ‘creating an expert/mentor network assisting ICT startups in entering the international market’) currently in progress in order to leverage synergies as efficiently as possible.	

The culture of cooperation	Instrument	Pre-commercial procurement (PcP)
	Nature of instrument	regulation
Objective of measure	To enable the purchasing of innovative solutions under public procurement projects by broadening the scope of pre-commercial procurement schemes.	
Content of the measure	<p>For the public sector, pre-commercial procurement (PcP) is clearly a method to reduce costs and increase the efficiency of operation. Based on the sharing of risks and benefits and carried out prior to public procurement, through cooperation between the public and private sectors, the multi-stage PcP promotes the creation of new technologies, products and services, which represent innovative solutions to the problems faced by public institutions. Through cooperation between the public and private sectors, it strengthens innovation from the demand side (innovative SMEs stand a better chance of being eligible in procurement processes).</p> <p>It is recommended that the PcP be introduced and implemented based on the following Union model: where no solution is currently available on the market, the organisation obliged to carry out public procurement may help the development of new, bespoke solutions for relevant public-service requirements in a four-stage process (idea – feasibility study – prototype production – pre-commercial tests) under a co-financing scheme with the developers. The conditions of the future utilisation of the product so developed are set out in a contract between the parties.</p> <p>The following stakeholders would be involved in the proposed national PcP procedure:</p> <ol style="list-style-type: none"> 1. The National PcP programme coordinator (NP) will be responsible for national-level coordination and for carrying out the preliminary demand assessment surveys with various publicly financed organisations coordinating the operation of government bodies. 2. Process owner (PO) – A publicly financed organisation carrying out public functions. It is responsible for identifying needs, professionally supervising and implementing the relevant PcP programme and co-financing the programme. 3. Utilising Organisation (UO) – A government institution required by the law to publish calls for proposals in public procurement tenders, which will utilise the results of the PcP programme (may coincide with the PO). 4. Project (idea) owner (IO) – A company applying for the PcP programme and having developed an innovative solution for the 	

	<p>existing public-service needs. It is offered an opportunity to further develop its idea and to carry out its project in two stages (production of a prototype and pre-commercial product development).</p> <p>5. Supplier (S) – The company submitting an offer for a public procurement tender adjusted to a specific PcP programme announced by the Utilising Organisation, which company is then awarded the contract; however, it need not be an entity that has been involved in the PcP process.</p> <p>PcP is a procurement model that can be implemented in the current Hungarian legislative environment. It can primarily be employed in the following areas:</p> <ul style="list-style-type: none"> – e-government; – healthcare; – public protection and public safety; – renewable energy sources; – information and communication technologies; – transport. <p>Proposal: drawing up a specific programme on the areas where launching the PcP is useful; establishing and supporting research institutes, large companies, SMEs and consortia of startups in these fields. Such topics may include, for example, the incorporation of sensors and robots into manufacturing processes in Hungary in the field of Industry 4.0 and the relevant research and development.</p> <p>On the selection of thematic fields, it is of absolute importance to ensure coordination with the Irinyi Plan, the Industry 4.0 strategy and with global trends (e.g. digitalisation, automation etc.).</p>
Proposed indicator(s)	Number of startups having participated in pre-commercial procurement.
Other remarks	-

The culture of cooperation	Instrument	Spinoff incentive programme
	Nature of instrument	regulation
Objective of measure	Organising the innovative ideas of SMEs and the professional teams of large companies into spinoff businesses.	
Content of the measure	<p>The problem: In Hungary, while there are a significant number of innovative SMEs as well as competence centres within large companies where numerous innovative and progressive ideas are born, these are often not launched or implemented due to the scarcity of resources or for other reasons (e.g. the idea does not fit in with the corporate strategy). At the same time, a number of startups do not possess sufficient entrepreneurial competencies of the required quality despite the fact that they may also have innovative ideas.</p> <p>In order to resolve the problems of these companies, to facilitate their cooperation and sharing of knowledge and to ensure that the emerging project ideas are utilised to the best effect, it is recommended that innovative SMEs that have operated successfully for several years should organise startup competitions, launching or implementing the most innovative project or projects nominated in the competition in the form of a separate (spin-off) company.</p> <p>According to our proposal, (initially) 50 innovative SMEs should be supported. They should be granted 50% aid intensity.</p> <p>The businesses formed as a result of the programme would have access to the experience, knowledge and information accumulated by the SMEs. The most innovative project ideas proposed by third-party startups, which are in accordance with the SME's innovative in-house ideas, would be implemented by separate spin-off companies.</p>	
Proposed indicator(s)	Number of SME spin-offs.	
Other remarks	-	

The culture of cooperation	Instrument	Startup Budapest Programme
	Nature of instrument	public policy / regulation / development policy
Objective of measure	Encouraging foreign startups companies and entrepreneurs to move to Hungary ('reverse brain drain').	
Content of the measure	Budapest offers a complex package of services to foreign startups for developing their businesses in the city. Similar initiatives include Start-Up Chile, French Tech Ticket or Start-up City Wien, while similar aid is also offered by Amsterdam or Berlin. The best startups will receive the following benefits in return for relocating to Budapest for a minimum period of 6 months: a grant, mentoring, help with administration, a 'landing pack' and, optionally, a startup visa, office space etc.	
Proposed indicator(s)	The amount of capital investment received by the participating companies, the increment in their sales, the number of such companies in 2 to 5 years, how many of them have chosen to move their headquarters to Budapest on the long run, the number of knowledge sharing meetings are held for participants of the Hungarian ecosystem.	
Other remarks	While the programme involves a substantial cost, the companies will spend their grants in Budapest, employing and teaching Hungarian programmers, designers, engineers and economists. Moreover, the Hungarian ecosystem will have access to invaluable experience and networking opportunities. As an additional benefit, it will promote the city's brand and attraction abroad. The measure is closely related to the startup visa proposal.	

The culture of cooperation	Instrument	Startup visa
	Nature of instrument	regulation
Objective of measure	Encouraging the Hungarian activities of innovative entrepreneurs and their highly qualified employees. To facilitate foreign entrepreneurs' residence in Hungary and thus promote the relocation of foreign companies to Hungary. The aim is to attract as many talented entrepreneurs as possible to establish companies and create	

	<p>value in Hungary.</p>
<p>Content of the measure</p>	<p>The problem: the international integration of the Hungarian entrepreneur community (startup ecosystem) is insufficient while professional entrepreneurial skills are missing, and there is a shortage of innovative workforce (there are about 22,000 vacancies in the digital industry).</p> <p>It is recommended that a startup visa and an incentive programme be introduced based on German and Austrian models. The startup visa is a special kind of visa, issued by a particular country, aiming to attract into the country ambitious, qualified and young entrepreneurs and young workers who plan to establish potentially high-growth businesses and to invest capital.</p> <p>As part of the startup visa programme, three programmes, focusing on different topics, could be implemented:</p> <ol style="list-style-type: none"> 1. visa supporting startup entrepreneurs; 2. visa supporting the employees of startups and innovative businesses; 3. a programme to support the settlement of entrepreneurs/employees/investors and their mentoring. <p>Startup visa and developing the related mentoring and incubation programme. As part of the above, in the beginning, selecting and supporting 10 to 25 foreign startups each year. In addition to the visa, the programme would include a certain amount of monetary financing, mentoring, networking as well as other instruments. In return, founders could be required to come up with a serious business plan, investment or job-creation. (That is the Startup Budapest Programme concept.)</p> <p>Under the programme, the entrepreneurs arriving in Hungary would receive support through various channels (e.g. financial support, tax reliefs, special (preferential) loans etc.). The selected innovative businesses are thus expected to stay in Hungary in the long term, which in turn leads to the creation of new jobs, the appearance and sharing of new types of knowledge, an increase in fiscal revenues and thus to a substantial growth of the Hungarian economy as a whole. Moreover, it would have a significant positive impact on the country's image. Highly qualified workers contribute to strengthening Hungarian production and human capacities and add to the increase in Hungarian added value.</p> <p>Within the programme, emphasis should be placed on the foreign policies of opening to the East/South, while the programme should be promoted abroad through economic development networks (e.g. embassies and</p>

	<p>Science & Technology attachés).</p> <p>Applications lodged by persons possessing or employed by an innovative, scalable and technology-driven enterprise are assessed by a dedicated committee consisting of risk capital investors and representatives of accelerators and other institutions. The residence permit is available for a period of one year, which may be extended by another year; if the company has had serious economic achievements and development, it can be extended for a period over 2 years.</p>
Proposed indicator(s)	<p>Number of startup/employee visas awarded; + how many of these have built up a successful business on the medium term (within 2 to 5 years), the turnover of these businesses and their number of employees.</p>
Other remarks	<p>Since startups always aim at the global market, some of their activities (e.g. development) are not location-specific. Therefore, there has been increasing global competition in order to attract the most talented entrepreneurs to establish a business in a particular metropolis. Startup visas are an important trump card in that game. Various countries have implemented a similar scheme (e.g. France or Lithuania). Their programmes are popular, inexpensive and have been implemented in a short time. The measure is closely related to the Startup Budapest programme.</p>

The culture of cooperation	Instrument	Silicon Valley inspiration programme
	Nature of instrument	public policy / development policy
Objective of measure	<p>Getting Hungarian startups acquainted with Silicon Valley's startup ecosystem, best practices and requirements with a view to achieving a similar level of success.</p>	
Content of the measure	<p>Training Hungarian business in Silicon Valley as part of a targeted programme lasting for a few weeks. As part of the programme, selected startups can gain an insight into local best practice and familiarise themselves with the local ecosystem. To that end, they attend coaching and networking sections, can visit the biggest companies, meet accelerators and incubators and participate in other business development workshops. The programme can be implemented as part of the Innotrade programme of the Hungarian National Trading House.</p>	
Proposed indicator(s)	<p>Number of startups having participated in the programme.</p>	

Other remarks	The programme was launched with a few companies in 2016 to great success as the joint project of the Hungarian National Trading House and the Design Terminal. It should be continued and extended, noting that the journey need not necessarily be restricted to Silicon Valley.
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The culture of cooperation	Instrument	Programme to support presence in Silicon Valley
	Nature of instrument	public policy
Objective of measure	Facilitating and supporting the presence of Hungarian startups in Silicon Valley.	
Content of the measure	Ensuring the presence of Hungarian startups in Silicon Valley, creating the required conditions, including selecting a custom-tailored location, developing a local organisation, the hiring of employees, development of a marketing strategy etc. (Within the region, Czechia and Poland have established a noteworthy representation in Silicon Valley; it may be worthwhile to find a way to establish a common house/representation for the Visegrad Four.) Possible ways should be considered to adjust the proposal into the framework of the existing GINOP-3.1.3-15 'creating an expert/mentor network assisting ICT startups in entering the international market' INPUT programme.	
Proposed indicator(s)	Number of startups with presence/sales in Silicon Valley, number of startups receiving American risk capital investments and the number of startups acquired by US companies	
Other remarks	It should be further assessed whether Hungary should focus primarily and/or exclusively on Silicon Valley. For example, under the French Tech Hub programme of the French government, France has established bridgeheads in 11 ecosystems, including Abidjan, Cape Town, Tokyo and Hong Kong, apart from San Francisco.	

4.2.5. Sources of financing

Encouraging angel investments

- Encouraging angel investments through tax allowances.
- A co-investment scheme to accompany angel investment.
- Upskilling programme for investors.

The proposed instruments in detail:

Sources of financing	Instrument	Encouraging angel investments through tax allowances
	Nature of instrument	regulation / development policy
Objective of measure	The kind of legislation to be created should provide sufficient incentive in order to multiply the number of angel investments in Hungary.	
Content of the measure	<p>In a country with a tradition of capital scarcity, where there are restrictions concerning the allocation of EU financing, the availability of angel investors is a prerequisite of the emergence of a successful startup ecosystem. Currently, no cheaper, faster and more efficient methods exist to provide financing to innovative early-stage startups. The number of active business angels in Hungary is far below the European average; encouraging angel investors is therefore of critical importance regarding the development of the startup ecosystem. Based on the best international practices, the following measures may be implemented in order to multiply the number of angel investments:</p> <ol style="list-style-type: none"> 1) the active operation of local business angel communities; 2) tax allowance for angel investors, which may attract numerous potential, relatively inexperienced angels towards startups; 3) establishing co-investment schemes that reduce risks for angel investors while multiplying the value of their investment. <p>This measure focuses on the tax allowance, while pointing out that it is also necessary to support business angel networks that are active in the sharing of knowledge and establishing a network and capable of bringing together international syndicates. It should be noted that creating co-investment</p>	

	schemes will further increase activity while reducing risks.
Proposed indicator(s)	Number of angel investors, the amount of investment by enterprise and the number of successful exits.
Other remarks	A relevant proposal package has been drawn up and is currently being reviewed by experts of the Ministry of National Economy before it is further elaborated.

Sources of financing	Instrument	Co-investment scheme to accompany angel investment
	Nature of instrument	development policy
Objective of measure	The impact of angel investment is multiplied if the government tops up the investment in accordance with a co-investment scheme.	
Content of the measure	<p>Angel investors play an important role in any successful startup ecosystem. They invest at an early stage, the riskiest phase of the lifecycle of a startup, when it is still difficult for such companies to have access to financing. A government co-investment scheme contributes to reducing risks and multiplying the positive effect of angel investments. The scheme essentially consists of the government capital fund topping up the amount to be invested by the angel investor, while the amount the parties receive from the exit is not in proportion with their investment, i.e. the angel investors will receive a greater proportion of the profit generated than the government fund.</p>	
Proposed indicator(s)	Number of existing angel investments and the number of successful exits.	
Other remarks	A similar scheme is employed in a number of countries, such as Germany and Portugal (the latter scheme being more sophisticated).	

Sources of financing	Instrument	Upskilling programme for investors
	Nature of instrument	of public policy
Objective of measure	Further training and upskilling for angel investors and venture capital investors investing in startups.	
Content of the measure	<p>Angel investors investing in startups, incubators, accelerators and risk capital investors should have access to the most up-to-date and most topical expertise, continue to learn from the cream of the global ecosystem, and be knowledgeable concerning the unique characteristics of specific industries.</p> <p>Any investment has two leading characters: the investor and the enterprise. In an emerging ecosystem, in addition to developing entrepreneurs' competencies, it is also very important to provide training to investors in order to prepare them for the characteristics of specific industries, of digital businesses in particular.</p> <p>The Hungarian entrepreneurial ecosystem is undeveloped, including investors in particular. Within the programme, education and further training activities should be carried out in the following stages and format:</p> <ol style="list-style-type: none"> 1. Employing foreign experts, to provide training and workshops to Hungarian investors (brief online and one-to-one training; train the trainer methodology). 2. Employing foreign experts, to provide 1:1 personal discussions and specific trainings to Hungarian investors (custom-tailored mentoring to be provided continuously during the programmes). 3. Silicon Valley education, training and 'insight' for risk capital investors (primarily for fund manager executives). 4. Attracting Western European executives with expertise in risk capital investment into Hungary for training purposes. <p>The programme will result in substantially more efficient and better investor decisions and improve the chances of success of Hungarian startups.</p>	
Proposed indicator(s)	Risk capital investors/managers involved in the further training programme.	
Other remarks	According to our proposal, the new JEREMIE programme will only be open for fund managers whose managers have committed themselves to educate themselves in order to improve their skills.	

Note: on drawing up the action plan, based on Section 7 of Government Decree No 37/2011 of 22 March 2011, it will have to be considered, in cooperation with the Aid Monitoring Office, whether there is an opportunity for State aid in the meaning of the competition law of the European Union, i.e. whether the criteria under Article 107(1) TFEU have been met.