

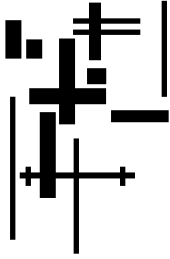
Prague as an Innovation Hub in 2030

The Czech Republic has announced its intention to become The Country for the Future. The central part of this new economic strategy is to evolve into an innovative economy. Cities with technical universities fulfill a core role in any innovative economy. If the Czech Republic is to become The Country for the Future, Prague must become A City For the Future.

This document, therefore, starts with suggestions that will align the economic plan of Prague with the new national strategy and then addresses policies that will help Prague develop into a major European and global innovation hub.



This document supplements our 2020 Letter on Priorities. That Letter establishes our four strategic priorities for developing the Czech economy, and proposes policies to achieve those strategies. One of the strategic priorities is to develop the nation's major cities as innovation hubs.



AmCham Advocacy Target

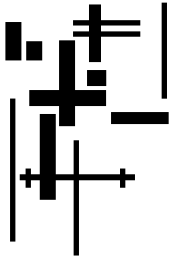
Our advocacy aims to make the Czech Republic a top ten EU economy by 2025. To measure that goal, we have developed a Prosperity Index that measures current prosperity, conditions for future prosperity, and how prosperity is shared across society. The primary indicator of current prosperity is GNI per capita.

If the Czech Republic achieved a 40% increase in GNI per capita in the period 2015-2024, we estimate that it could become one of the EU's top ten economies. This target was based on the country's 31% GNI per capita growth between 2005-2014.

In the period 2005-2014, Prague increased its GDP per capita by 8,700 PPS, a 22% increase. We propose to target a growth of 50% for the period 2015-2024. This would equal a GDP per capita of 72,600 PPS. That is the equivalent to the 2016 productivity of Amsterdam, Munich and Dublin.

Comparison of
GDP per capita
of major European cities
purchasing power standard
Eurostat
2016

Paris	89,500	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Amsterdam	71,700	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Munich	71,200	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Dublin	71,000	gdp per capita (PPS)	<i>Eurostat, 2016</i>
London	55,000	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Bratislava	54,000	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Praha	53,600	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Vienna	45,400	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Warsaw	43,500	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Budapest	39,800	gdp per capita (PPS)	<i>Eurostat, 2016</i>
Berlin	34,800	gdp per capita (pps)	<i>Eurostat, 2016</i>



economic development priorities

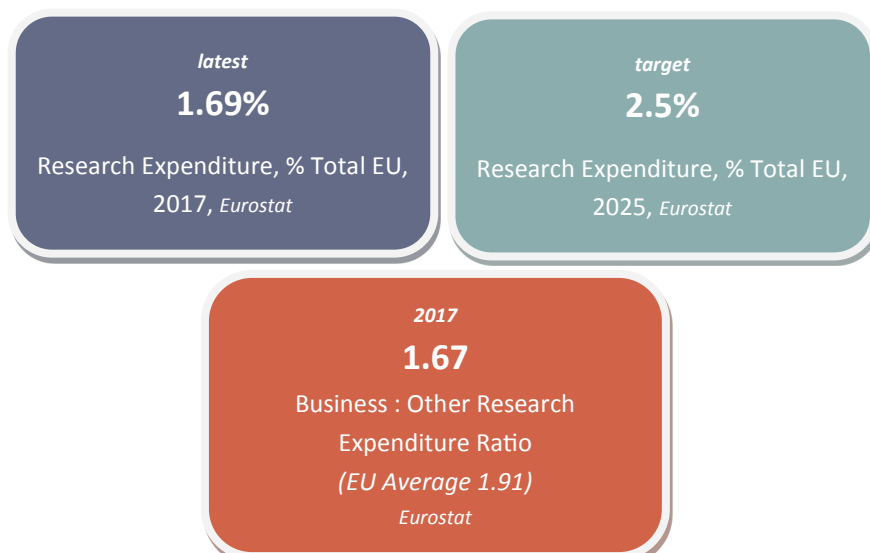
identifying economic drivers of growth and aligning city plans with key government partners

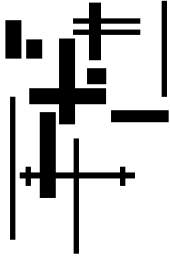
After reviewing both the national economic strategy and Prague’s 2016 Strategic Plan, we recommend two parallel courses of action.

First, the city should develop a specific and detailed economic development plan in close cooperation with the national government, surrounding regional governments, and complementary cities such as Brno. Second, the city could take steps that will benefit its economic development regardless of which industries will drive its prosperity in the future.

The 2016 Prague strategic plan addressed economic development generally, and some key factors of development (housing, commute, digital education) will apply regardless of how the city’s economy develops. However, the city should consider what type of economic activity will be the primary driver of city and citizen prosperity over the next 20 years, and develop zoning, infrastructure and education plans to create competitive advantages for those sectors. For instance, a start-up/spin-off economy will require a different plan around universities. A high-end tourism-based economy would also require specific zoning and infrastructure plans. To identify those sectors and define how city assets can be developed, we propose a series of workshops in the 1H of 2020 that answer the question “What will be the source of Prague’s economic prosperity in 2020?”

Prague’s further development will depend greatly on actions taken by the national government, surrounding regional governments, and cities such as Brno. All are dependent on the others to achieve greater prosperity, and cooperation will maximize the chances of successfully competing against other innovative economies. We would recommend including those authorities in further discussions about the city’s development, and aligning economic strategies as closely as possible.



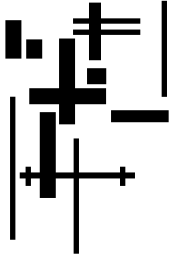


economic development priorities

developing basic economic assets

In addition to identifying specific economic drivers and aligning development plans with key government partners, the city can take steps to improve the basic economic assets of Prague. AmCham identified economic development priorities in each of five key areas of economic policy: people, technology, infrastructure, capital and government.

1. **Broaden Base of Innovative People.** Deepen the expertise of current population, improve access to talent in surrounding regions, and supplement with immigration.
2. **Transform Prague into an innovative campus.** Rapidly adopt new digital infrastructure, create the spaces necessary for start-up growth, and connect the city with the global community.
3. **Build a base of key technologies that can be used in multiple final products.** What is important in the modern economy is not to be the final producer, but to design and produce of global products' key technology. Prague should recruit more key technologies to be designed in the city.
4. **Capital.** Create more opportunities for start-ups to connect with global capital.
5. **Government as first adopter.** The government should encourage an innovative environment by becoming a European leader in digitization of government.



developing basic economic assets

innovative population

People constitute the primary asset of any innovative city. Cities that generate high levels of economic productivity tend to have major technical universities that attract talented students from a wide geographic pool, easy access to capital and talent that attracts young entrepreneurs, and living standards that serve as a magnet to young professionals.

Prague is doing well on all these counts. One clear proof is that the Prague and the Central Bohemian region has grown by 172,000 people since 2010. How the skills of that population are developed, and how those skills are supplemented through immigration will likely be the principle factor in determining how Prague will compete against other European innovation hubs.

The city faces three policy challenges.

First, the Czech Republic ranks below the EU average in adult (or ongoing) education, and significantly below innovative economies such as Sweden, Denmark, and the Netherlands.

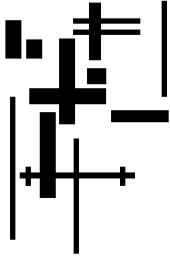
percentage of total population participating in education/training lasting minimum of 4 weeks, 2018, eurostat

Finland	28.5	156
Austria	15.1	132
EU Average	11.1	118
Czech Republic	8.5	51
Germany	8.2	124
Hungary	6	89

mean hours spent by participant in education or training, 2016, eurostat

Second, the large domestic migration to Prague and Central Bohemia has placed a severe strain on the public transportation system and the housing market. This stress will grow more severe as the city continues its natural development. The shortage of housing and the inadequacy of public transport also could have a deleterious impact on the city's quality of life.

Third, the proportion of scientists and engineers to the total population has been growing strongly in Prague (from 5.4% in 2010 to 8.5% in 2018). Since



Prague has a smaller population than many other innovative cities, the city still counts significantly fewer scientists (84,000) among its citizens than competitors such as Warsaw (205,000), Berlin (207,000), Vienna (105,000), or Stockholm (188,000). Prague also trails other current or aspiring innovative hubs in the “creative class”: people who either hold university degrees and/or are working in science and technology.

percentage of total population with university degrees and/or employed in science and technology, 2018, eurostat

Berlin	49.7	1,370,900
Vienna	49.4	639,100
Stockholm	56.8	982,600
Czech Republic	50.5	500,700
Warsaw	57	1,190,400
Budapest	46.9	616,800

people with university and/or employed in science and technology, 2018, eurostat

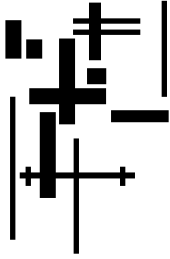
To address these challenges, we recommend:

1. Create incentives for current workforce to acquire digital and entrepreneurial skills.

percentage of individuals with basic or above basic skills digital skills, 2017, eurostat

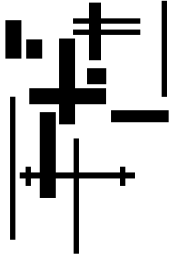
Netherlands	79	82/77
Germany	68	71/65
Austria	67	73/62
Czech Republic	60	63/57
Hungary	50	52/47
Poland	46	48/45

male/female percentage with basic or above basic digital skills, 15-64 years, 2017, eurostat



	% large companies (250+) that provide ict training to develop skills of their personnel, 2018, eurostat	% SMEs (10-249) that provide ict training to develop skills of their personnel, 2018, eurostat		
Finland	85	34	36	% all enterprises that provide ict training to develop skills of their personnel, 2018, eurostat
Austria	78	25	27	
Czech Republic	78	23	25	
Germany	76	28	30	
EU Average	69	21	23	
Hungary	64	15	17	

- Work with successful organizations such as Czechitas to develop citywide courses to train adult population in digital skills. The City could provide premises for such courses, and partially subsidize the tuition fees. Next step: Meet with relevant NGO's to discuss developing a digital curriculum in ongoing education with the goal of proposing a package of measures in September 2020.
- Sponsor two annual digital challenges that aim to solve city policy issues, such as traffic flow. Each city district could register a team of residents who would not only be responsible for preparing the technical and business proposal, but also for raising sponsorship money for their teams. Next Step: Organize an AppforMyDistrict contest in April 2020.
- Work with public schools to make programming a "required language" in schools. Again, the work of organizations such as Czechitas could provide valuable. Next Step: Prepare a first proposal for how teaching machine communication could become a required "language" in primary and secondary schools for discussion in May 2020.
- Organize an annual Prague Golem festival each year featuring a school competition to build a robot that can completed specified tasks. Next Step: Prepare a draft proposal by February 2020.



2. Create a housing policy through short-term measures to alter the market and a long-term zoning strategy.

a. **Short-term measures.**

1. Regulate short-term apartment rental.

total number of listings on airbnb,
2019, insideairbnb website

Prague	13,591	78.3	percentage of listings that are entire homes or apart- ments, 2019, insideairbnb website
Prague 1	3,829	84.7	
Prague 2	2,227	74.9	

i. Require AirBNB and other similar companies to collect the room tax, and to meet the same hygiene standards as a pension. Next Step: Prepare proposal by December 2019.

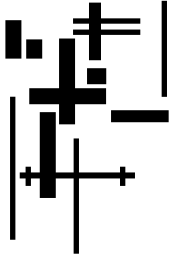
ii. Any individual or company operating 3 or more rooms/ apartments for short-term rental would be regulated as a pension. Next steps Prepare proposal by December 2019.

2. Strengthen rules on derelict properties. For example, consider permitting the city to buy properties at market rates that cannot meet inhabitation standards. Next step: Prepare proposal by March 2020.

total number of derelict residential
buildings, 2019, prazdnedomy.cz website

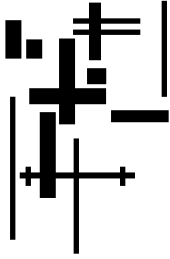
Prague	203
Apartment Buildings	90

3. Place the highest priority on approving permits for properties being developed for 4 or more residential units with the average price or below for that district of Prague.



b. **Long-term measures.** With the Central Bohemian government, develop a long-term residential development. Several European cities recently have adopted affordable housing policies. Amsterdam has pledged to build 7,500 new houses. In 2018, The City of London adopted a comprehensive housing policy also based on the purchase of land and the subsidization of affordable housing.

1. In cooperation with the national and Central Bohemian government, develop an affordable housing fund that purchases and develops land for residential use. Next step: Fund a study that recommends a legal structure and business model for a city affordable housing fund.
2. Work with national and regional governments to design a public commuter plan for a Prague with a 2 million person workforce.
 - i. complete a modified plan for a park-and-ride network around Prague.
 - ii. consider a network of express buses that would run from satellite towns to outlying Metro stations during peak traffic hours.
 - iii. consider a congestion and/or peak hour charge.
 - iv. complete the inner ring road.
 - v. in cooperation with Prague districts and surrounding villages, create a schedule for maintaining roads that ensures an optimal traffic flow.
- iv. work with logistics companies to develop a comprehensive logistical plan for the city, including micro-depots that would allow final delivery by bike or foot messenger.



developing basic economic assets

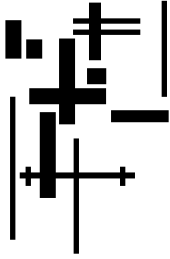
campus prague

Top innovation hubs create cultures that combine community and competition, and makes advanced technology readily available to the public.

If Prague wants entrepreneurs and scientists that can conquer the world, it needs to equip them with the tools they need. That means the most modern digital infrastructure and affordable offices from which to grow their businesses. It also means access to communities of innovators, challenges that test their knowledge and creativity, and the ability to access global markets easily.

Building a sustainable innovative economy also means building a unique cultural infrastructure that makes Prague unique from the multitude of cities that have their own innovation strategy and ambitions to be the next Silicon Valley. Prague should establish itself the one and only Prague. The city is the legendary home of the Golem, a piece of earth (although not silicon) made sentient by human knowledge. One of the city's most famous writers, Karel Capek, invented the word robot.

- 1) Modernize the city's technology infrastructure.
 - a. Develop an action plan to be one of the first EU cities to install 5G technology. In a digitized economy, cities with a high capacity network will have a major advantage in attracting talent and investment, as well as providing digital solutions to resolve traffic flow, pollution, energy efficiency, and other challenges of city life. 5G will require a comprehensive upgrade of the existing infrastructure, and to ensure speed and reduce disruption to regular city operations, the city could work with the telecommunications operators to plan how to create the new infrastructure.
 - b. Request the Prague Planning Office to propose start-up districts that include university classrooms and labs, corporate labs, and affordable offices for start-ups.
 - c. Ensure that the city has access to recycling centers with sufficient capacity.
- 2) Connect the city to the Prague Airport.
 - a. In the short-term, introduce a network of express buses that run between the airport and key parts of the city.
 - b. Place a priority on connecting the subway system to the airport.
- 3) Develop an integrated marketing campaign that includes tourism, education, culture, venture capital, and the recruitment of technologies and scientists.



Attracting Key Technologies

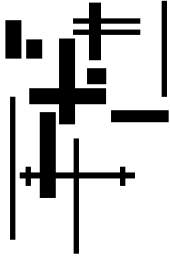
The city's innovative capacity depends on the capability of its research infrastructure— the network of public and company research facilities. Today, that infrastructure still relies greatly on government (Czech and EU) investment. In most of the top innovative economies, the ratio of private to public investment in research is over 2:1. In the Czech Republic, the ratio is 1.67:1. It will be difficult to increase research investment substantially without increasing that ratio.

The most beneficial source of such investment would be global companies that already have developed a key technology, and could further develop that technology in Prague. Such a company possesses 1) technological knowledge that could be shared with universities, 2) project management know-how that could be shared with universities and local partners, 3) financial resources that could be invested into university laboratories, 4) existing global markets for the technology, and 5) the potential to provide Czech start-ups with an initial customer base.

We suggest the City of Prague create a technology recruitment task force that identifies and recruits significant global companies to Prague.

Access to Capital

Prague has a growing supply of capital available domestically, and both European and US investors are aware of its engineering capabilities. The city could improve access to capital by sponsoring and helping to organize such events as the proposed Golem Festival.



City as Europe's digital leader

Since a large part of city life is regulated or operated by the city's government, Prague will need to be a digital leader if it is going to become a leading innovation hub.

We recommend the following policies.

- 1) Digitize the city's operations.
 - a. Starting with the city's construction permit process, move the application and approval process online.
 - b. Issue a tourist pass that allows tourist to charge for all city services they use on the mobile phone.
- 2) Sponsor public contests (similar to hackathons) to develop applications or online services that improve city services and city life.
- 3) Introduce "innovation criteria" into public procurement by 1) establishing defined and measurable policy objectives into bid requirements, and 2) using MEAT method to assess quality of bids.