Czech Republic as the Leading Digital Challenger

29/05/19, Prague
We again grow faster than the EU average
GDP growth, annual growth rate 2015-18

annual GDP growth puts Czech Republic among the fastest growing EU countries
Voting

When would Czech Republic overtake Germany in productivity at current growth?
Our productivity grows slowly

Only about quarter of our GDP growth comes from productivity growth

2.3% Employment and working hours growth
3.2% GDP growth
0.9% Productivity growth

Our productivity growth is rather slow
Annual growth rate of real gross value added per hour, 2015-18
To catch up with Germany in productivity and thus in quality of life, we need to speed up, otherwise Poland will overtake us soon.

Gross value added per hour
EUR, constant prices, log scale

- Germany: 49
- Czech Republic (CZ):
  - Current productivity growth: 0.9% p.a.
  - Projected productivity growth: 1.7% p.a.
Productivity is crucial for our companies to succeed in international competition

Companies in Czech Republic face above average level of international competition
Gross export in % of GDP, 2017

Labor costs grow faster than productivity, the advantage of cheap labor diminishes
Labor cost in % of gross value added

- 2000: 56
- 08: 58
- 15: 59
- 2017: 63
In invested capital per employee, we are behind the Western European average

Invested capital per employee since 2005
In % of EU 15 average

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</thead>
<tbody>
<tr>
<td>Poland</td>
<td>34</td>
<td>49</td>
<td>56</td>
<td>58</td>
<td>92</td>
<td>174</td>
</tr>
<tr>
<td>EU 15</td>
<td>100</td>
<td>100</td>
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Source: Eurostat; McKinsey analysis

To reach the EU average, we would have to increase the invested capital by 73%
It is difficult to fill in the invested capital gap, however China and India manage to do so.

**Development of investments as a share of GDP**

In %, 1970 - 2009

SOURCE: CEIC; Haver Analytics; McKinsey Global Economic Growth Database; World Development Indicators of the World Bank; McKinsey Global Institute

McKinsey & Company
Voting

How would you describe the current digitalization situation in the Czech Republic?
How is Czech Republic doing in terms of digitalization?

Good foundation, but with necessity of significant improvement

Improvement, but slow and inconvenient status in general

Openness to new technologies, quick adoption of innovative and user-friendly services

Mixture of quickly and slowly digitalizing sectors

Good foundation, but with necessity of significant improvement

Environment supporting digitalization

Digital government

Digital society

Digital economy
Faster digitalization could nearly double our productivity growth

+90%

Productivity growth

Our report “Rise of Digital Challengers” shows digitalization can be the next growth engine and increase our productivity growth rate from 0.9% to 1.7% p.a.

Digital economy GDP, EUR billion

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP (EUR billion)</th>
<th>Scenario</th>
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<tbody>
<tr>
<td>2016</td>
<td>14</td>
<td>Czech digital economy in 2016</td>
</tr>
<tr>
<td>2025</td>
<td>40</td>
<td>Aspirational scenario</td>
</tr>
<tr>
<td></td>
<td>+26</td>
<td>Business as usual</td>
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<tr>
<td></td>
<td>+11</td>
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</table>

2016 2025
Accelerating digitalization

Czech economy is well positioned

Good macroeconomic competitiveness

Still good level of education (despite declining trend)

Large pool of STEM and ICT graduates

Good internet access (despite low spread of fiber)

Priorities for accelerating digitalization

Build skills for the future

Accelerate public sector

Boost digital infrastructure

Accelerate the private sector

Foster entrepreneurship
Build skills for the future
What’s at stake

52%

of workplace activities can be automated using existing technology and we need to rebuild the skills of our working population

Where we are

21st

among EU’s 28 countries in advanced IT skills
Significant improvement in advanced IT skills needed

At least basic and advanced digital skill in the population

Age groups

65-74

55-64

45-54

35-44

25-34

16-24

Source: Eurostat; McKinsey analysis
What can be done

Leverage student pool
Business-focused courses for STEM students
Tech translator courses for business students
Practical business projects
Platforms to solve business problems
Support for internship programs

Promote life-long learning
Digital toolkit training of employees
Employee re-training in key industries
Adult apprenticeship program
Learning advice to companies and individuals

Activate dormant potential
Support for independent / part-time work
IT training for women on maternity
IT inclusion for the elderly
Support for working remotely
Manufacturing association in Middle East country created an Industry 4.0 capability center

Created a broad coalition of companies from industries most affected by digitization
Developed digital training programs for all levels of employees from CxOs to shop floor workers
Designed and built a model factory to provide practical experience on digital transformation use cases
Czech Republic as the Leading Digital Challenger

Accelerate public sector
What’s at stake

40%

of GDP represented by public sector including healthcare and education

Where we are

33%
e-government usage vs. 78% in Digital Frontrunners and 96% in Estonia

100th+
place in several neglected areas in WEF competitiveness survey
Czech public sector is significantly under-digitalized

Estonia

95%
Estonians submit their income tax online

100%
Pre-filled data, only to be controlled and confirmed

3-5
Minutes to fill the form

Czech Republic

16%
Czechs submit their income tax online

0%
Pre-filled data

2-5
Hours to fill the form

Source: E-Estonia; financnisprava.cz; Deloitte
What can be done

Build momentum with quick wins
Improve UX and usage of already digitized services
Start with easy to digitize areas

Design services holistically
Greenfield design
Simplification
Centralized redesign
Modern IT architecture
Common front-end standard
Private sector-led design of public platforms

Digitize uncompetitive areas
Use digital tools
• To leapfrog
• Improve business friendliness
Automate costly processes

Enable digital changes
Digital-friendly legislation incl. Digital ID, public cloud
Centrally-led change
Agile principles and organization
**Case study**

**User-centric redesign of child benefit online application in Germany**

- Ensured the application is easier to find
- Created true mobile version
- Decreased the number of fields to fill-in by 40% and simplified the language used
- Removed requirement to provide paper evidence
- Cornerstone for an end-to-end digitization of the entire parent user journey

**80%**
reduction in time spent on application

**13x**
increase in online applications from 3% to 26% in 3 months
Boost digital infrastructure
What’s at stake

87%
correlation between digital infrastructure readiness index and global competitiveness

Where we are

16%
of households have ultra-high speed broadband subscription vs. 35% for Digital Frontrunners and 48% in Sweden
What can be done

**Ensure regulatory support**
- Proactive legislative enablement of new technologies
- Facilitate access to existing infrastructure
- Temporary exclusivity rights to newly developed infrastructure

**Provide tax incentives**
- Tax deductible investments into new connections
- Tax deductible provision of broadband to employees at home.

**Use subsidies**
- Subsidize infrastructure construction in rural areas
Case study

Rapid full-scale fiber rollout in Spain

Time-limited exclusivity rights for TelCos for newly built fiber connections

Legal obligations to speed up FTTH build-up

• Landlords must provide access to buildings
• Cooperation with utilities to reuse infrastructure

EUR 525 million of state aid, partly EU-funded, to bring 300 Mbps broadband to 100% of households by 2021
Czech Republic as the Leading Digital Challenger

Accelerate private sector
What’s at stake

34% of workforce employed in private sector industries with low digitization level

Where we are

7x ratio of digital index for Financial industry (2\textsuperscript{nd} best behind ICT) compared Accommodation & Food (worst digitized private sector)
Digitalization can bring a number of benefits to companies

<table>
<thead>
<tr>
<th>Lower costs</th>
<th>Costs per client, EUR p.a., 2017</th>
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<tbody>
<tr>
<td>Komerční banka</td>
<td>315</td>
</tr>
<tr>
<td>ČSOB</td>
<td>173</td>
</tr>
<tr>
<td>Česká spořitelna</td>
<td>153</td>
</tr>
<tr>
<td>Air Bank</td>
<td>88</td>
</tr>
<tr>
<td>Fio</td>
<td>31</td>
</tr>
<tr>
<td>Revolut</td>
<td>8</td>
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<thead>
<tr>
<th>Faster growth</th>
<th>Revenues, EUR million</th>
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<tbody>
<tr>
<td>2014</td>
<td>367</td>
</tr>
<tr>
<td>2017</td>
<td>336</td>
</tr>
<tr>
<td>-3% p.a.</td>
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<table>
<thead>
<tr>
<th>Global reach</th>
<th>Website visitors, percent, 2017</th>
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<tbody>
<tr>
<td>2014</td>
<td>3</td>
</tr>
<tr>
<td>2017</td>
<td>700</td>
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</table>

| | Foreign | Czech |
| | 54.6 | 45.4 |
| | 90.0 | 10.0 |
What can be done

Service companies

- Redesign in line with customer journeys
  - Change from product to customer journey design
  - Leverage 3rd parties to complete own offer
  - Create customer experience design teams

- Create an ecosystem
  - Create ecosystems and pull in less-digitized companies
  - Adopt common standards for interoperability

Across industries

- Adopt new technologies
  - Create innovation centers and digital labs
  - Make most of fast-follower strategy

- Agile & open IT
  - Open API and microservices
  - Transition to cloud solutions
  - Use agile at scale
  - Deploy data science experts

Manufacturing companies

- Implement “Industry 4.0”
  - Digital design (AR/VR)
  - Intelligent production (IoT, Robots, 3D printing)
  - Decisions driven by Big Data (cloud, advanced analytics)
  - New business models
Case study

Simple by OTP, beyond banking offering in Hungary

Traditional bank created new entity focused on beyond banking offering
Simple links customers to services through its marketplace and payment processing
Provides payment solution, credit offering, invoicing, loyalty program and other services
Czech Republic as the Leading Digital Challenger

Foster entrepreneurship
What’s at stake

40%

Of new jobs in OECD countries are created by young companies, even though they represent only 16% of total employment

Where we are

38

startups per million people vs. 215 for Digital Frontrunners
Low level of venture capital investments slows down development of the Czech start-up scene

Venture capital investments
In % of GDP 2015-17

-92%

0.010

Czech Republic

0.049

Average of Central Europe

0.129

Average of digital champions

1. Belgium, Denmark, Estonia, Finland, Ireland, Netherlands, Norway and Sweden

Source: Eurostat; Invest Europe; Funderbeam; AngelList; Dealroom
What can be done

**Improve access to funding**
Create startup incubators
Increase available corporate VC funding
Increase government support

**Ensure start-up friendly environment**
Create a start-up ecosystem
Develop startup infrastructure
Create government technology programs

**Strengthen cultural support**
Develop university hubs
Celebrate success stories
Destigmatize entrepreneurial failure
Case study

**StartupDelta, a public-private partnership accelerates startups in the Netherlands**

Partnership of accelerators, incubators, government and its ministries, top universities and businesses
Facilitates access to funding for local startups
Helps foreign startups with relocation to the Netherlands
Promotes Dutch startups abroad and helps with acquisition of international customers

70+ number of partners represented

1,000+ startups connected to sources of funding in 2017
Voting

Which two priority areas are the most important ones according to you?

What should be done to accelerate digitalization?
What can a young professional do to accelerate digitalization

Train colleagues and older generation

Find digital improvements

Found companies
Voting

What will you personally do to accelerate digitalization?