The rise of Digital Challengers

How digitization can become the new growth engine for Slovenia

June, 2019
We have deep understanding of the Slovenian market

McKinsey served some of the largest companies in Slovenia\(^1\) across more than 10 different industries, out of which several were in digital sphere

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\(^1\) Slovenian activities are covered by consultants from CEE office complex
Dedicated reports launched by McKinsey in CEE in the last 5 years

Pan-CEE reports

- Digital Challengers
  Reigniting growth in CEE

New growth model for CEE countries

- 5 opportunities for Poland
- Poland 2025
- How Hungary can win productivity race

Future of work

- Automation potential in Poland
- Automation potential in Hungary
- Digital Czech Republic

Digital

- Digital Poland
- AI Revolution

We are a thought leader in the CEE region on topics such as economic development, automation, and digital opportunities.
Contents

- Potential of digital economy
- Current digitization of Slovenian economy
- Key drivers of digitization
- Recommendations
Despite significant increase in the last years, Slovenian Real GDP per capita is still 2.5 times lower in comparison to the Digital Frontrunners ...

Real GDP per capita, 2017, EUR

Digital Frontrunners\(^1\)

- 62 million people
- Slovenia
- ~2.5x

Real GDP per capita growth, 2013-2017, %

CEE – Digital Challengers\(^2\)

- 101 million people

- CEE: Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia
- 2

EU Big 5\(^3\)

- 323 million people
- 2 million people
- Slo

1 Belgium, Denmark, Estonia, Finland, Ireland, Luxembourg, Netherlands, Norway, Sweden
2 CEE: Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia
3 France, Germany, Italy, Spain, UK

SOURCE: Local institutes of statistics; Eurostat
... mainly driven by lower productivity and limited investments

**Productivity**

- Productivity - GDP per hour worked\(^2\), 2017, EUR

**Labor**

- Unemployment, 2017, %
- Hours worked per year per employee, 2017

**Capital**

- Capital stock per employee, EUR mln, 2016

**Production\(^1\)**

- (GDP)

**Digital Frontrunners\(^3\)**

- Slovenia

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1 Cobb–Douglas production function: Total production = Total factor productivity * Labor input\(^{11}\) * Capital input (\(\alpha + \beta = 1\); \(\alpha\) and \(\beta\) are the output elasticities of capital and labor, respectively)
2 EUR purchasing power parities in current prices
3 Belgium, Denmark, Estonia, Finland, Ireland, Luxembourg, Netherlands, Norway, Sweden

SOURCE: Eurostat; Local institutes of statistics
As traditional growth engines fade away, digital economy is the new growth driver

**Share of digital economy**

<table>
<thead>
<tr>
<th>Country</th>
<th>Value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slovenia</td>
<td>5.2</td>
</tr>
<tr>
<td>CEE</td>
<td>6.5</td>
</tr>
<tr>
<td>EU Big 5</td>
<td>6.9</td>
</tr>
<tr>
<td>Digital Frontrunners</td>
<td>7.4</td>
</tr>
<tr>
<td>Sweden</td>
<td>9.0</td>
</tr>
</tbody>
</table>

**Growth of digital economy**

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-16</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>9.9</td>
</tr>
</tbody>
</table>

**Notes:**

1. Sum of gross value added for sectors ICT, e-commerce and consumer spending on digital equipment (e.g., computers, smartphones, smartwatches)
2. France, Germany, Italy, Spain, UK

SOURCE: Eurostat, Euromonitor; Local institutes of statistics; McKinsey Global Institute
Strong focus on digitization can generate additional 2.1 EUR billion of GDP in Slovenia by 2025. Digitization with potential to drive considerable GDP contribution for Slovenia; however, wider macroeconomic implications need to be considered and mitigating actions to address these implications need to be developed.

1 Assumptions: Acceleration of e-commerce and consumer offline spending on digital until 2025 to yield 0.7 EUR bln based on Sweden benchmark; Capturing digitization potential in business and public sector assumed growth until 2025 to yield 1.4 EUR bln.

SOURCE: Eurostat; IHS; Local institutes of statistics; McKinsey Global Institute
Potential of digital economy

Current digitization of Slovenian economy

Key drivers of digitization

Recommendations
Slovenia’s digital potential can be achieved by addressing gaps in the digitization level of private and public sectors.

Digitization level of selected sectors
Low: <=3%  Average¹: 3-10%  High: >10%

1 Average level of all sectors (excluding the most advanced ICT sector and finance)

SOURCE: Eurostat; Local institutes of statistics, McKinsey Global Institute
Large enterprises in Slovenia are in many aspects as digitized as Digital Frontrunners, however SMEs in Slovenia do not fully use the potential of digitization.

### Digitization of business – selected KPIs

<table>
<thead>
<tr>
<th></th>
<th>Advanced Analytics</th>
<th>New business models</th>
<th>Connectivity</th>
<th>Automated processes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analyzing big data, 2018</td>
<td>Selling online, 2018</td>
<td>Using social media for branding and marketing, 2017</td>
<td>Using software solutions like CRM systems, 2017</td>
</tr>
<tr>
<td>Large Enterprises</td>
<td>38%</td>
<td>47%</td>
<td>56%</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>44%</td>
<td>48%</td>
<td>74%</td>
<td>68%</td>
</tr>
<tr>
<td>SME</td>
<td>9%</td>
<td>17%</td>
<td>32%</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>16%</td>
<td>25%</td>
<td>50%</td>
<td>36%</td>
</tr>
</tbody>
</table>

SOURCE: Eurostat
The largest sectors in Slovenia in terms of employment are also the ones most likely to experience a labor market mismatch in the future.

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1 Estimates for sectors made in line with MGI methodology; construction & real estate sectors excluded due to lack of available data.
2 Estimate for sectors made in line with MGI methodology by using Czech Republic, Hungary and Poland data as a proxy.

SOURCE: Eurostat; Forbes; IHS; McKinsey Global Institute.
Automation will drive substantial shift in required skill set towards technology and social skills.

- Basic cognitive skills: ▼ 17%
- Physical and manual skills: ▼ 16%
- Social and emotional skills: ▲ 22%
- Technology skills: ▲ 52%

1 Based on Western Europe estimates

Source: McKinsey Global Institute
Digital Skills in Slovenia vs Digital Frontrunners by age group, %

**Basic Digital Skills**

- **16-24**: Slovenia 85, Digital Frontrunners 87
- **25-34**: Slovenia 78, Digital Frontrunners 85
- **35-44**: Slovenia 69, Digital Frontrunners 80
- **45-54**: Slovenia 62, Digital Frontrunners 52
- **55-64**: Slovenia 59, Digital Frontrunners 26
- **65-74**: Slovenia 18, Digital Frontrunners 42

**Advanced Digital Skills**

- **16-24**: Slovenia 62, Digital Frontrunners 68
- **25-34**: Slovenia 52, Digital Frontrunners 59
- **35-44**: Slovenia 36, Digital Frontrunners 51
- **45-54**: Slovenia 23, Digital Frontrunners 41
- **55-64**: Slovenia 8, Digital Frontrunners 24
- **65-74**: Slovenia 6, Digital Frontrunners 13

Even though today Slovenian population has lower basic and advanced digital skills compared to Digital Frontrunners, younger population is reducing the gap.

SOURCE: Eurostat, McKinsey analysis
Contents

- Potential of digital economy
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- Recommendations
Two strengths Slovenia can build upon its Digital Challenger status

Good primary and secondary education quality in developing math and science literacy

– Math, reading and science literacy PISA¹ average of 509, above Digital Frontrunners’ score of 505

Relatively well developed digital infrastructure

– Approx. 96% of the population with 4G access, at the level of Digital Frontrunners

¹ Program for International Student Assessment (PISA)

SOURCE: Eurostat, OECD
Math and science literacy in Slovenia is on par with Digital Frontrunners.

**Scores in Math, Reading, Science Literacy**

PISA (OECD) Synthetic scores, 2016

<table>
<thead>
<tr>
<th></th>
<th>Math</th>
<th>Avg. CEE</th>
<th>Avg. Digital Frontrunners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>510</td>
<td>477</td>
<td>505 (+1.0%)</td>
</tr>
<tr>
<td>Reading</td>
<td>505</td>
<td>473</td>
<td>507 (-0.4%)</td>
</tr>
<tr>
<td>Science</td>
<td>513</td>
<td>477</td>
<td>506 (+1.4%)</td>
</tr>
</tbody>
</table>

**SOURCE:** OECD, PISA, World Bank
There are no significant gaps in terms of access to fixed and mobile internet in Slovenia in comparison to Digital Frontrunners.

Percentage of populated areas covered by 4G – measured as the average coverage of telecoms
% of the country

Households covered by the standard fixed broadband (availability)
% of the households

1 Digital Frontrunners: Belgium, Denmark, Estonia, Finland, Holland, Ireland, Norway, Luxemburg, Sweden
2 Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia

SOURCE: DESI 2018, World Economic Forum
To strengthen Slovenia’s Digital Challenger status, additional push can be done in three major areas:

1. The adoption of digital tools in public and private sectors
2. Development of digital and soft skills among the general population
3. Support innovation and entrepreneurship development and further ease of running a digital business
Although internet penetration gap is not very large, difference between Slovenia and Digital Frontrunners gets significant in terms of usage of internet services.

In CEE people use internet mostly to operate basic operations (e.g., posts on social media) instead of the full spectrum of possibilities that connectivity provides.

**Individuals using Internet,**
% of the population

- CEE: 80%
- Digital Frontrunners: 93%
- Gap: -14.2%

**Individuals looking for information online,**
% of the population

- CEE: 69%
- Digital Frontrunners: 80%
- Gap: -13.8%

**Individuals who used online banking,**
% of the population

- CEE: 39%
- Digital Frontrunners: 80%
- Gap: -51.5%

SOURCE: DESI 2018, Eurostat
Significant gap is observed in terms of digital skills in Slovenia against Digital Frontrunners.

### Basic or Above Basic Digital Skills¹

<table>
<thead>
<tr>
<th>Region</th>
<th>% of population aged 16-74</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE</td>
<td>54.0</td>
</tr>
<tr>
<td>Digital Frontrunners</td>
<td>47.1</td>
</tr>
<tr>
<td>% Gap to Digital Frontrunners</td>
<td>-22.5%</td>
</tr>
</tbody>
</table>

### Basic or Above Basic Digital Skills - Software for content manipulation²

<table>
<thead>
<tr>
<th>Region</th>
<th>% of internet users</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE</td>
<td>45.6</td>
</tr>
<tr>
<td>Digital Frontrunners</td>
<td>38.8</td>
</tr>
<tr>
<td>% Gap to Digital Frontrunners</td>
<td>-43.7%</td>
</tr>
</tbody>
</table>

### Above Basic Digital Skills - Individuals who have written a computer program

<table>
<thead>
<tr>
<th>Region</th>
<th>% of the population aged 16-74</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE</td>
<td>4.0</td>
</tr>
<tr>
<td>Digital Frontrunners</td>
<td>3.4</td>
</tr>
<tr>
<td>% Gap to Digital Frontrunners</td>
<td>-57.3%</td>
</tr>
</tbody>
</table>

¹ Individuals not using internet are classified without digital skills. To be classified “basic or above basic” on the overall indicator an individual has to have basic or above basic skills in all the four Digital Competence domains included in the index: information, communication, content-creation and problem-solving.

² Software skills for content manipulation refer to the ability to create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licenses.

SOURCE: DESI 2018, Eurostat
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10 recommendations to increase digitization in Slovenia

**Public sector**

1. **Build skillset for the future** by developing a wide-ranging reskilling strategy, updating youth education for the future and actively counteracting brain drain.

2. **Support technology adoption in the public sector** by speeding up the development of online public services and its adoption.

3. **Support technology adoption among businesses** by promoting digitization benefits and digital transformation, enabling e-commerce through favorable regulation and incentivizing companies to use digital tools.

4. **Strengthen regional cross-border digital collaboration** by creating a strong digital pillar within regional collaboration platforms and ensuring standardized & flexible digital policy solutions.

5. **Improve startup eco-system** by developing entrepreneurial talent pool and, supporting startup hubs, increasing and simplifying access to capital.

**Private sector**

6. **Invest in human capital** by preparing talent strategy for the digital economy, updating approach to recruiting and actively driving reskilling.

7. **Actively adopt technology and innovation** by adapting your business model and leveraging digital tools in both revenue and cost management.

8. **Embrace a pro-digital organizational culture** by ensuring role modeling from top leadership and implementing reinforcing mechanisms to reward adoption digital.

9. **Prepare for the digital economy** by investing in life-long learning, especially in competencies that are hard to automate.

10. **Take advantage of digital tools** by leveraging digital platforms and tools in everyday life.
Adoption of digital tools in public and private sectors and development of digital skills among the general population are essential to fully realize the potential of the digital economy in Slovenia.

Slower growth of the Digital Economy compared to the Non-Digital economy – still with a huge upside.

Digital economy annual growth in Sweden – Digital Challengers countries and Slovenia may aspire to such a growth dynamic in the future.

Additional GDP potential can be achieved by digital economy in Slovenia by 2025.

The digital opportunity in Slovenia – summary.

- Slower growth of the Digital Economy compared to the Non-Digital economy – still with a huge upside.
- Digital economy annual growth in Sweden – Digital Challengers countries and Slovenia may aspire to such a growth dynamic in the future.
- Additional GDP potential can be achieved by digital economy in Slovenia by 2025.

10% growth of the Digital Economy in Sweden – Digital Challengers countries and Slovenia may aspire to such growth dynamic in the future.

3x growth compared to the Non-Digital economy.

2.1bn euro additional GDP potential can be achieved by digital economy in Slovenia by 2025.

The digital opportunity in Slovenia – summary.
Thank you

Available at:

Digitalchallengers.mckinsey.com