Agenda

- **10.00-10.10 AM**: Introduction on the EaP PLUS project and the series of webinars

- **10.10-10.45 AM:** Presentation of concept Center 4.0 as key element of innovative ecosystems for industrial hitech
  - ❑ Ukrainian landscape of innovators in industrial hi-tech segments
  - ❑ Local model of innovative ecosystem
  - ❑ Concept of regional and industry Center 4.0 / the deployment in 2018
  - ❑ Parallels and possible touch points with DIHs and hi-tech cluster development
  - ❑ Cooperation and exchange points with EaP countries

- **10.45-10.55 AM:** Conclusion

- **10.55-11.15 AM**: Q&A

EAP PLUS

- Launched in September 2016 – 3 year long Coordination and Support Action dedicated to EU-EaP STI cooperation

- Builds on previous projects addressing the region (Inco Net EaP, Bilat, BSH...)

- Includes partners from all 6 EaP countries and from several EU MS

3 main objectives:

- Support EU-EaP Policy Dialogue

- Foster interaction between EU-EaP researchers & boost EAP participation in H2020

- Enhance the EU-EaP research-innovation partnerships

EAP PLUS – RDI Webinars

- Six webinars on specific innovation related topics, exploitation paths and other horizontal issues important for the EU EaP RDI cooperation
  - Innovation strategies – April 2017
  - Innovation management – September 2017
  - Exploitation strategy in R&I collaborative projects – December 2017
  - Impact maximisation in R&I collaborative projects – May 2018
  - **Engaging in academia-industry collaboration – February 2019**
  - Internationalization of RDI activities - Exploring the models of international innovation partnerships – May 2019

Speakers

Alexandre Yurchak

CEO in [Association of Industrial Automation of Ukraine (APPAU)](#)

Alexandre Yurchak has 25 years of experience working on Industrial Automation and IT markets as business developer and strategist. He spent 12 years in an international company, Schneider Electric, including work in France. In 2005 he came back to Ukraine and continued working for another 6 years in local engineering, machine-building enterprises and later in the national investment agency. Since 2011 Alexandre has been working on his own projects in industrial hi-tech area, predominantly in the APPAU. In 2016 APPAU founded the national movement 'Industry 4.0 in Ukraine' and in 2018 developed the national strategy 4.0.
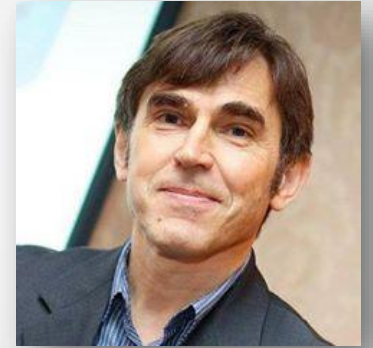
Krisztina Dax

Consultant at [inno TSD](#), France

She specializes in European (H2020) projects and regional economic development, having worked on projects such as NearUS, YAKSHA, BILAT 4.0, EAP+ and Black Sea Horizon, specifically with impact maximization of these projects. She is a native speaker of Hungarian and Russian, and speaks English and French.

Industry 4.0 in Ukraine
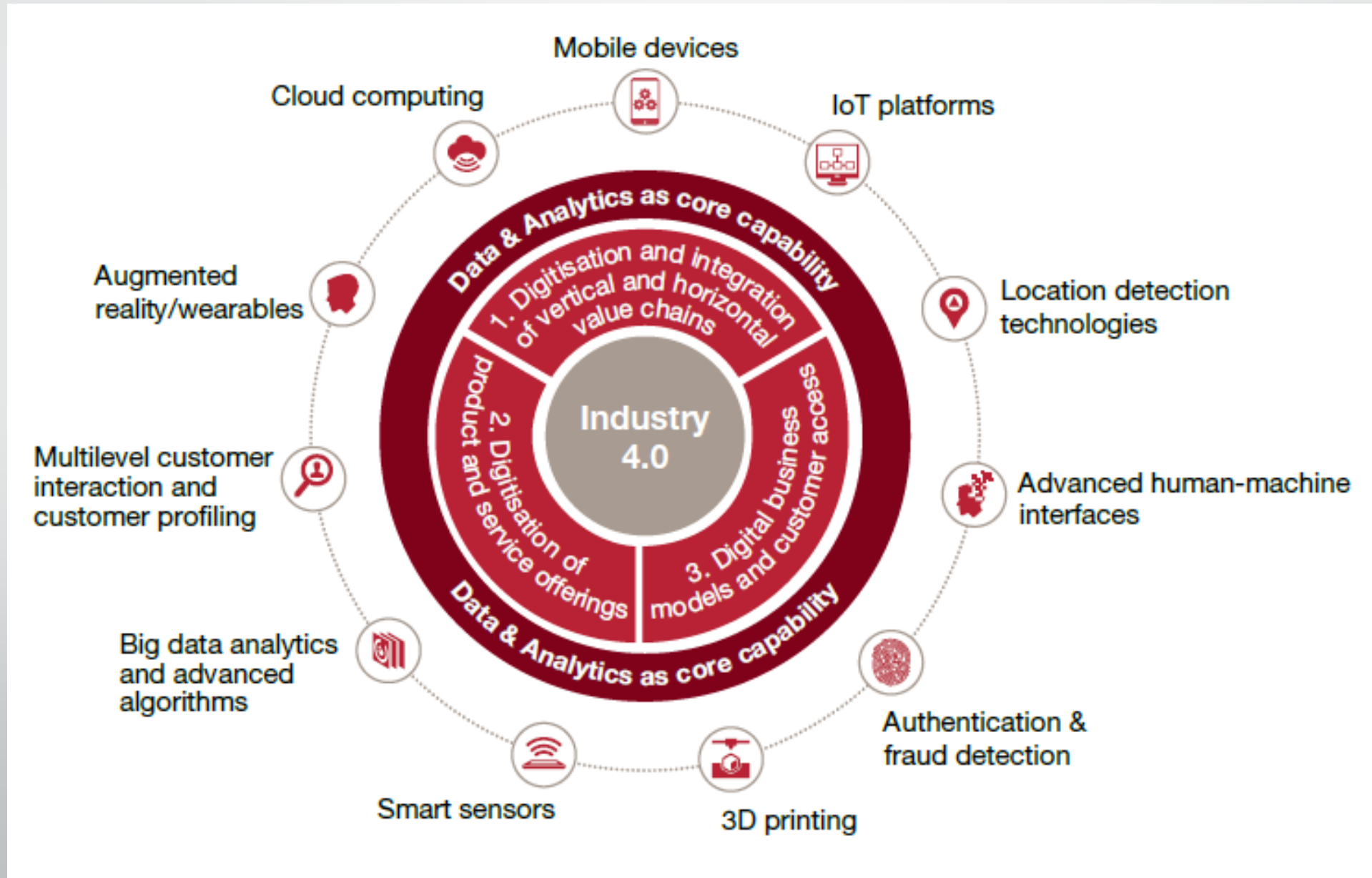## common platform for development
Industrial high-tech sectors

industry4-0-ukraine.com.ua

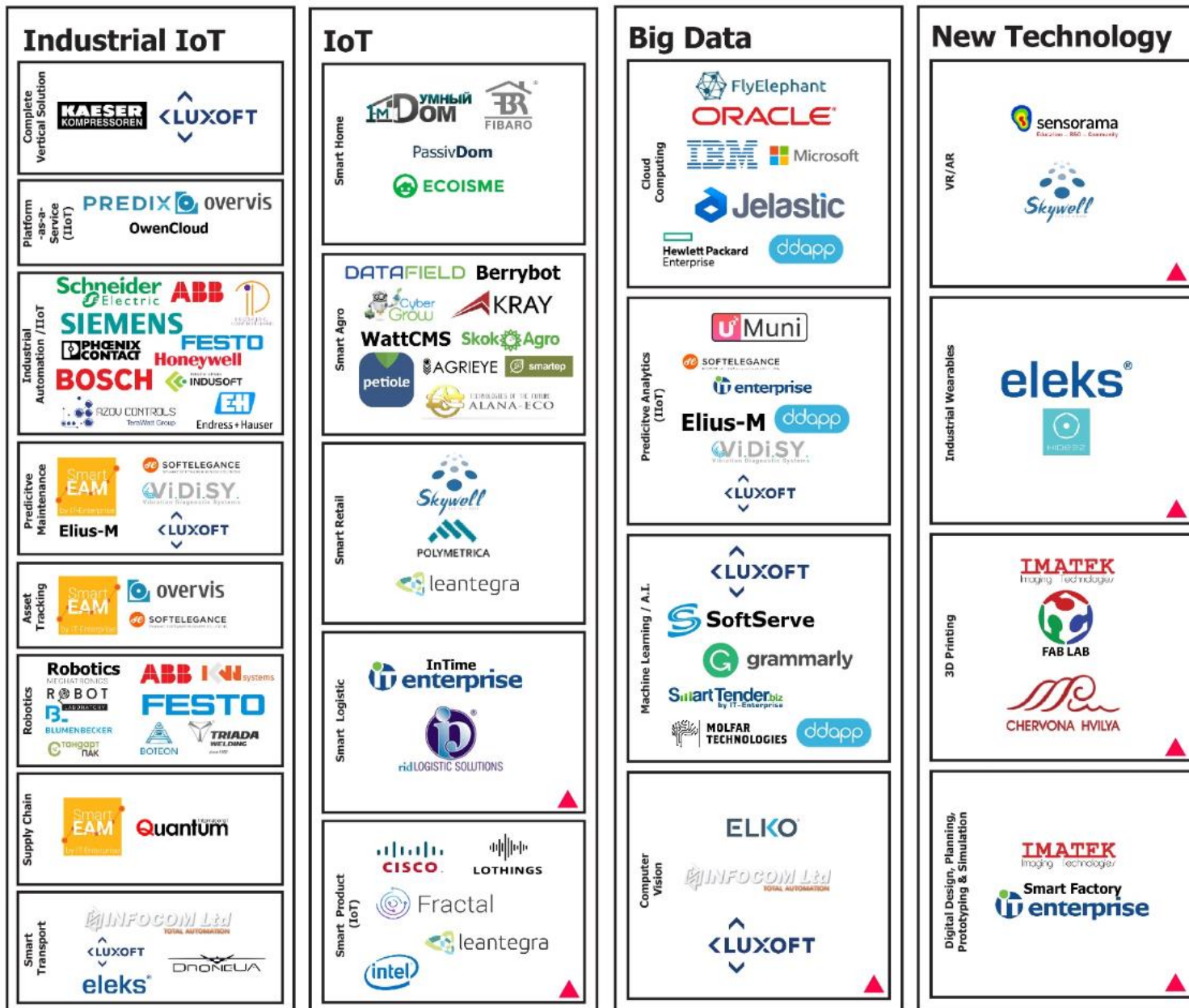# Technological view (PwC)

Dependence on 3.0

Status of 4.0 per segment
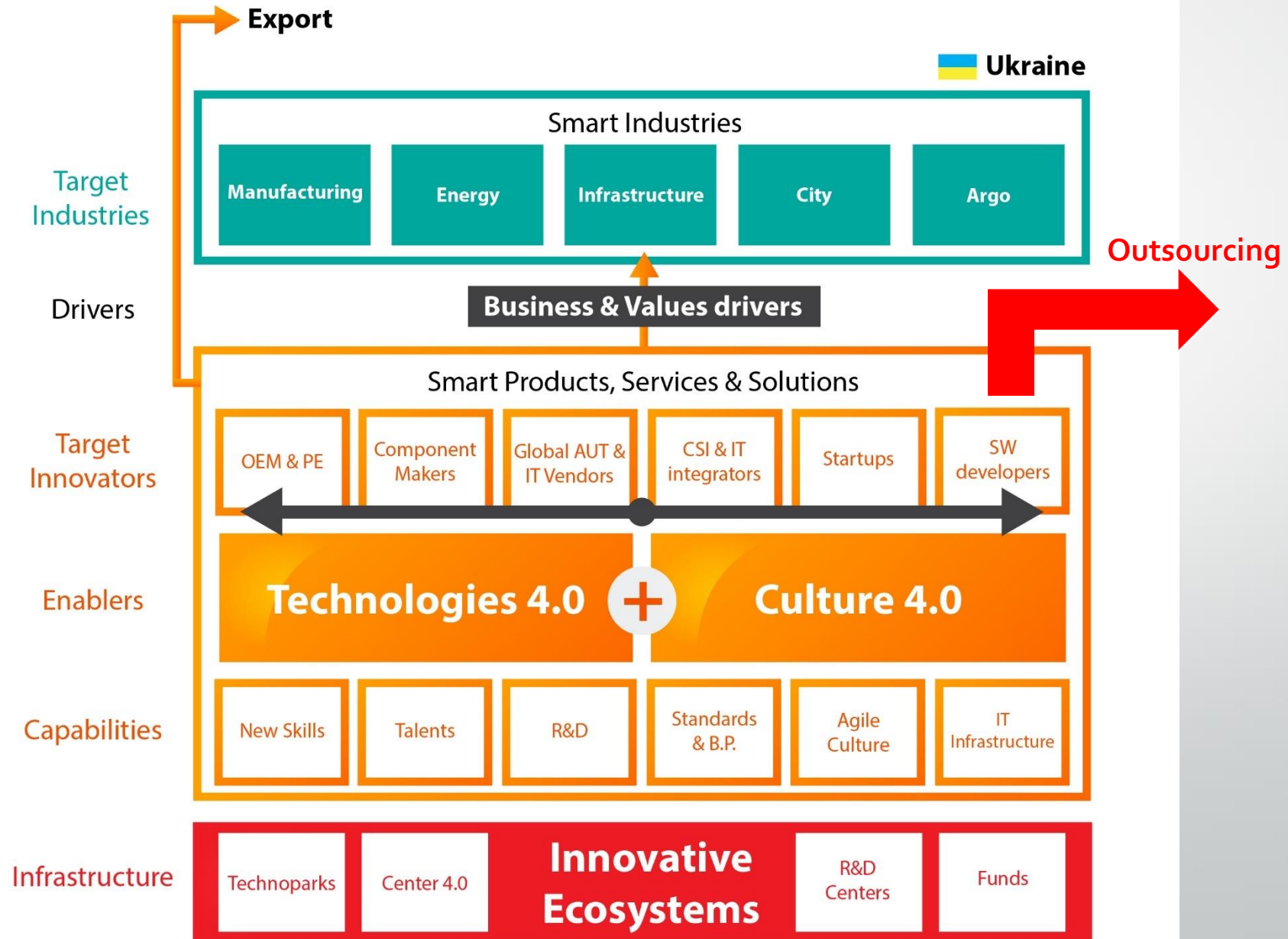
Targets

Industry 4.0 landscape in Ukraine

2017

2019

X3

Strategy framework 4.0

UKRAINIAN TECH INDUSTRY

with offices based in Ukraine

20% [1]

world's leading companies

in software development for mobile platforms

Microsoft

ABBYY

SAMSUNG

SIEMENS

WARGAMING

HUAWEI

Volume of IT service exports for 2017 [2]

$3.6B   3.4% of GDP

[Download the guide](#)

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184 700 [3]

software developers

$290M [4]

in startup investments in 2018

IAOP

18 [5]

IT service providers

present in the 2018 Global Outsourcing-100 list

FORTUNE 500

100+ [6]

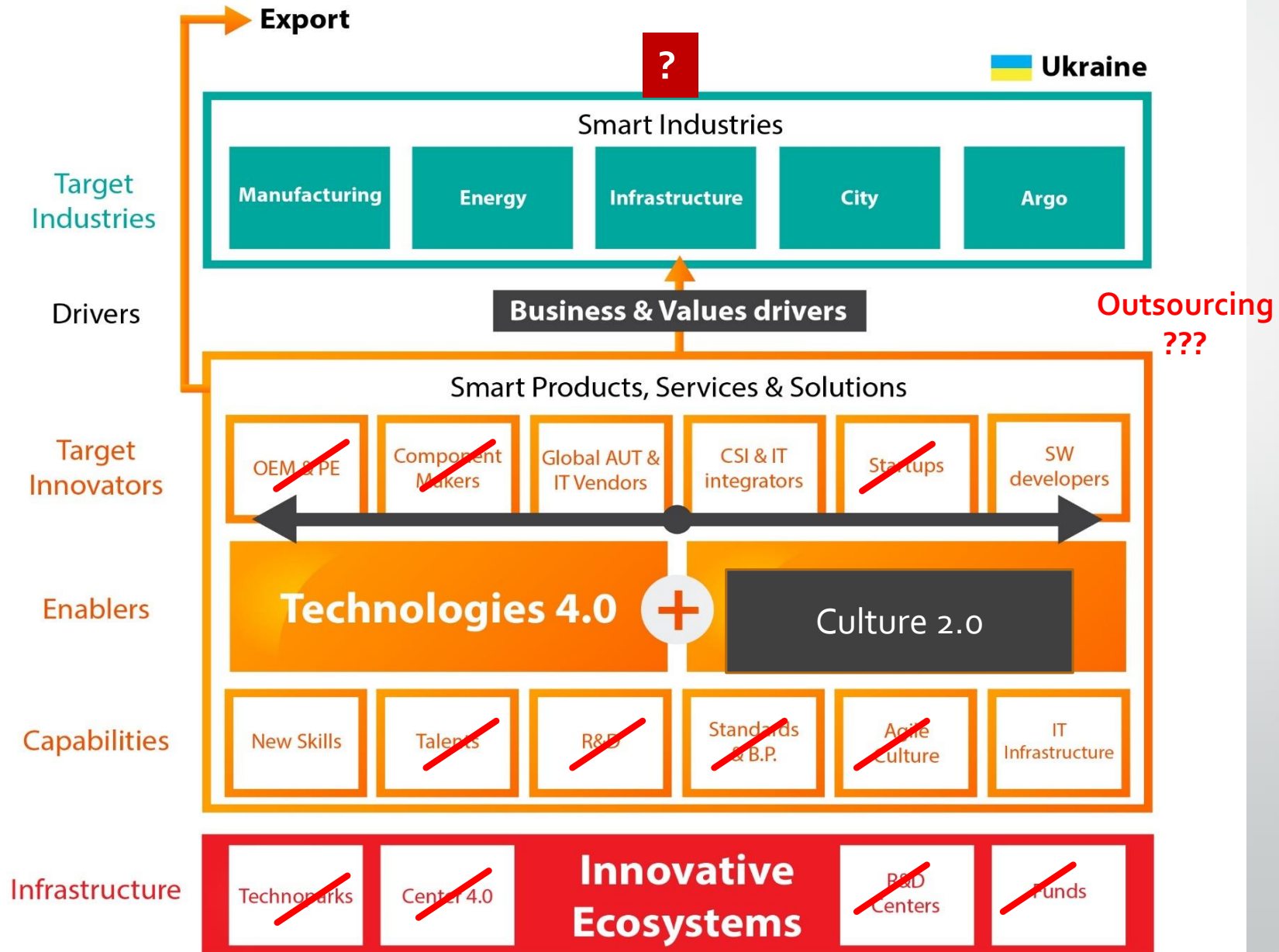Fortune 500 companies have chosen Ukrainian IT services

SAMSUNG   hp   Google

4000 [7]

tech companies

2nd [7]

largest export industry in 2018
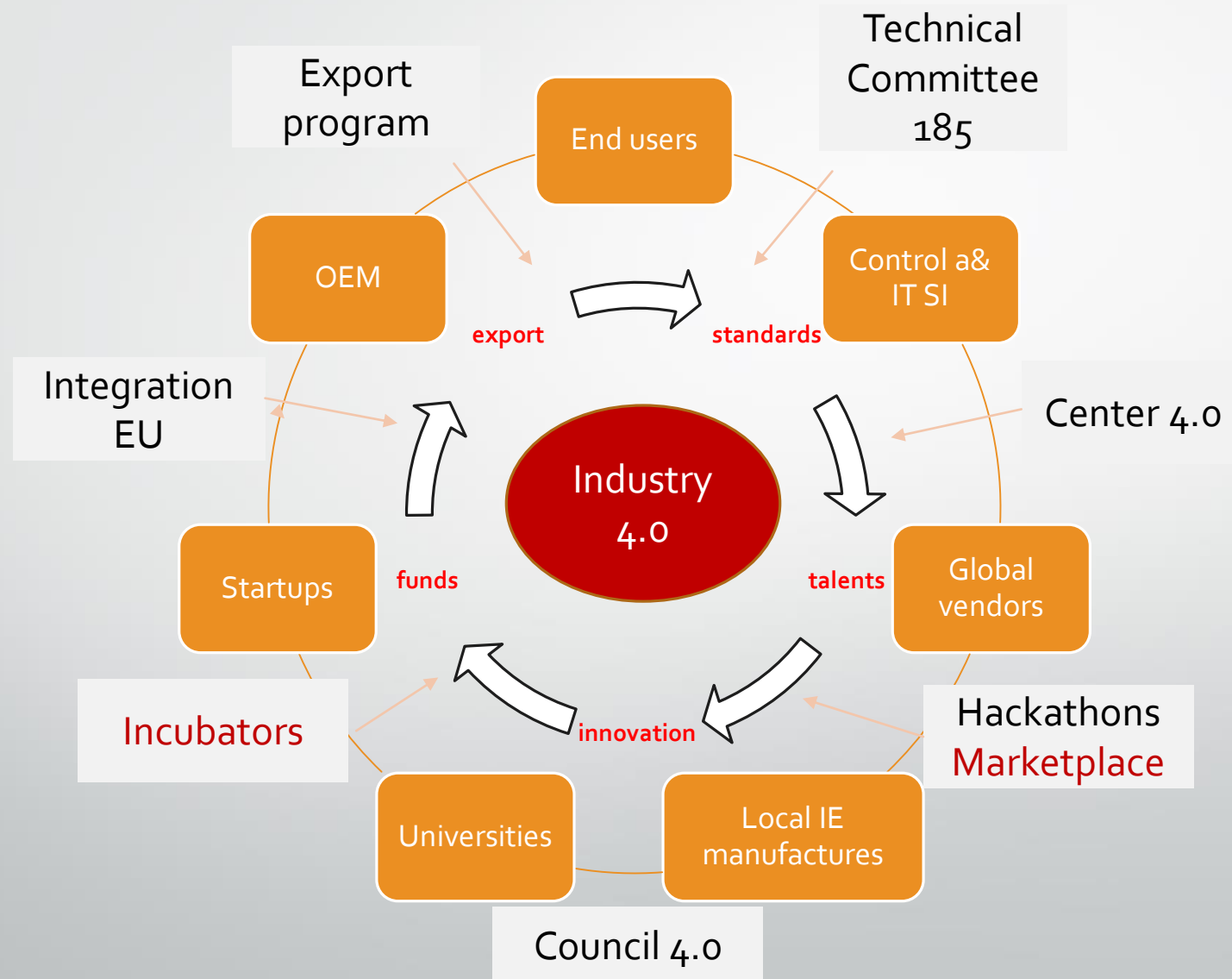
Industrial hi-tech ecosystem is disbalansed

3 main issues during 2016-18

1) no national strategy supported by the State

2) weak and disbalanced ecosystem

3) weak innovation focus on 4.0

Building connected and collectives assets

BRANDS view

Cases & Issues

Customer Experience

Technology insights

Experts opinions

Industry expertise
International standards
Strategies & best practices

All stakeholders

Developing common tools (assets) for collaboration and development

Cluster approach

#ActionablePartnership program
(short-term common actions but in strategic directions)

1. Market education
   - Preparing first case-studies (IT-Enterprise, FED, Interpipe)
2. Market analytics
   - Landscape of Industry 4.0 (CIS-Events & group of 6 experts)
3. Innovation, R&D, talents
   - The project '10-top IIoT applications in Ukraine' (10+ players)
   - Launch of Center 4.0 program (whole community)
4. New training & standards
   - Food University with experts of TC185
5. Networking, PR and GR
   - Group Smart Re-industrialization (6 stakeholders incl the Government)

# Model of innovative ecosystems
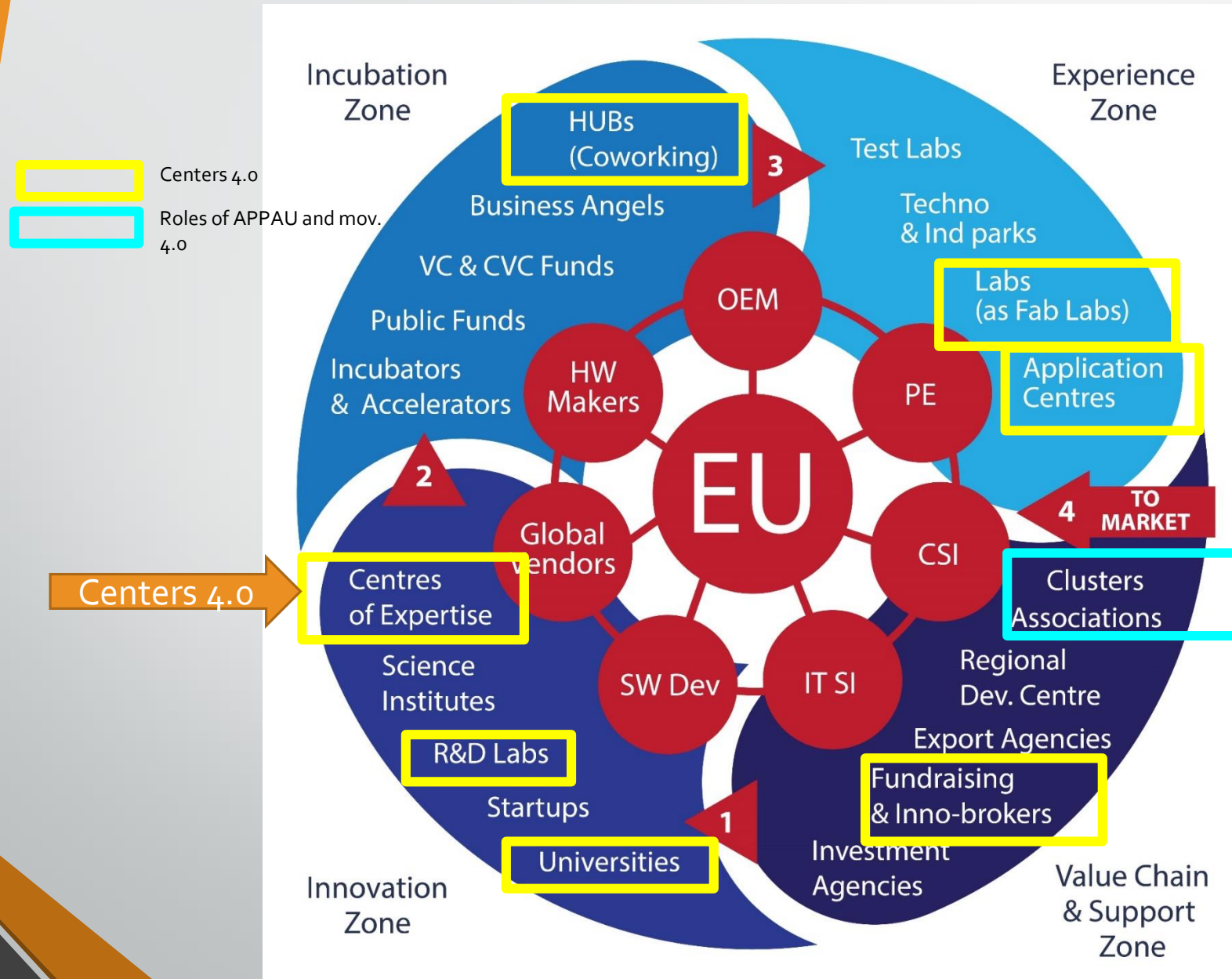
Work with Universities

Development of Center 4.0

Local context and experience
2012-2017

- 300+ Universities / 38 thousands engineers every year

- Weak market orientation
  - weak contribution to market education (articles, white papers, use-cases…)
  - outdated training programs
  - no or weak matching to employer demands

- But still strong potential
  - Universities are the main talent source for IT- and other hi-tech industries

- Not effective management / disbalanced development program
  - Hype with startups with no or very little conexion to real market

Bad management with integration into EU programs
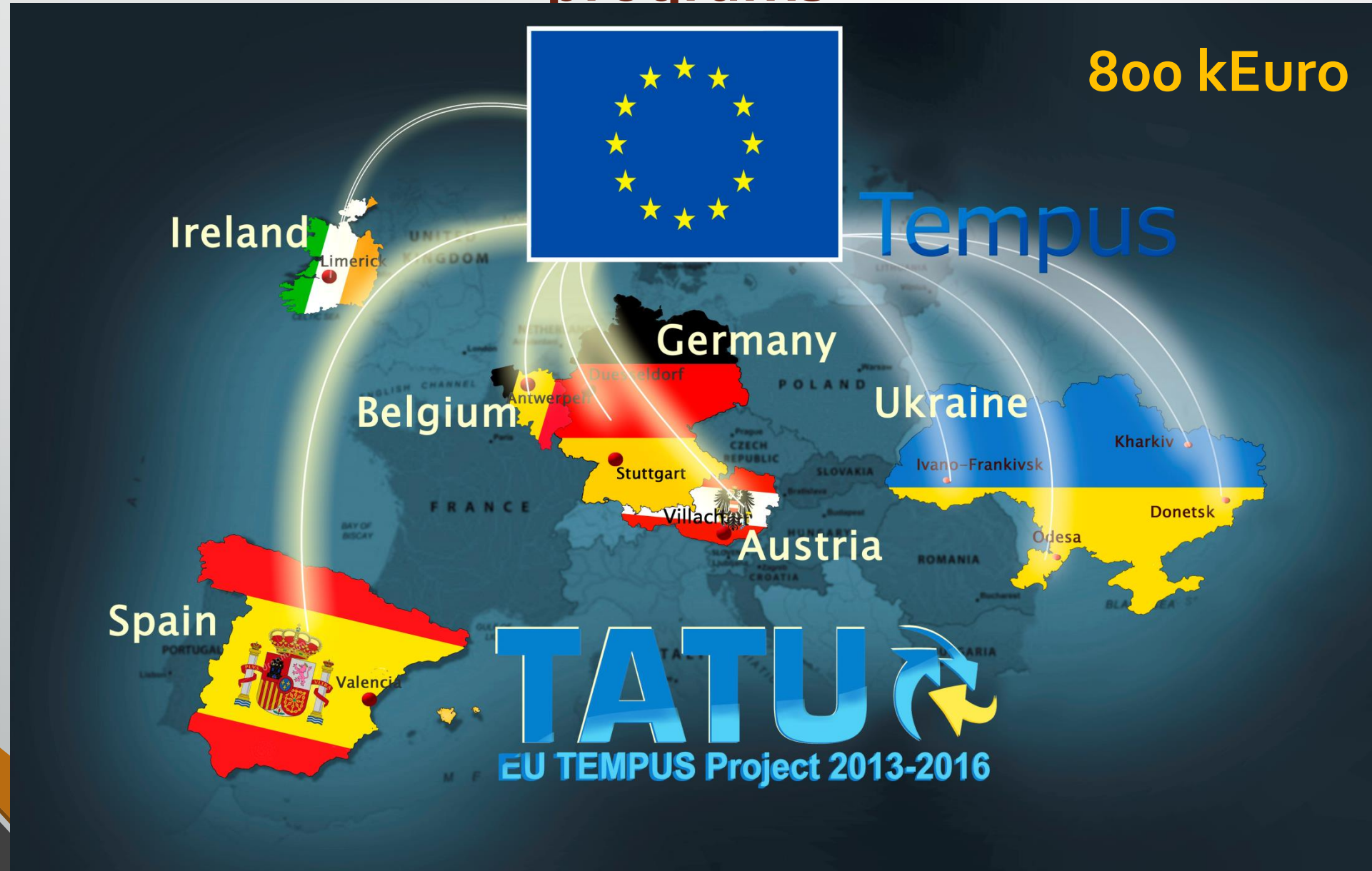
Gaps are growing

Industrial hi-tech
- Growing deficit of talents
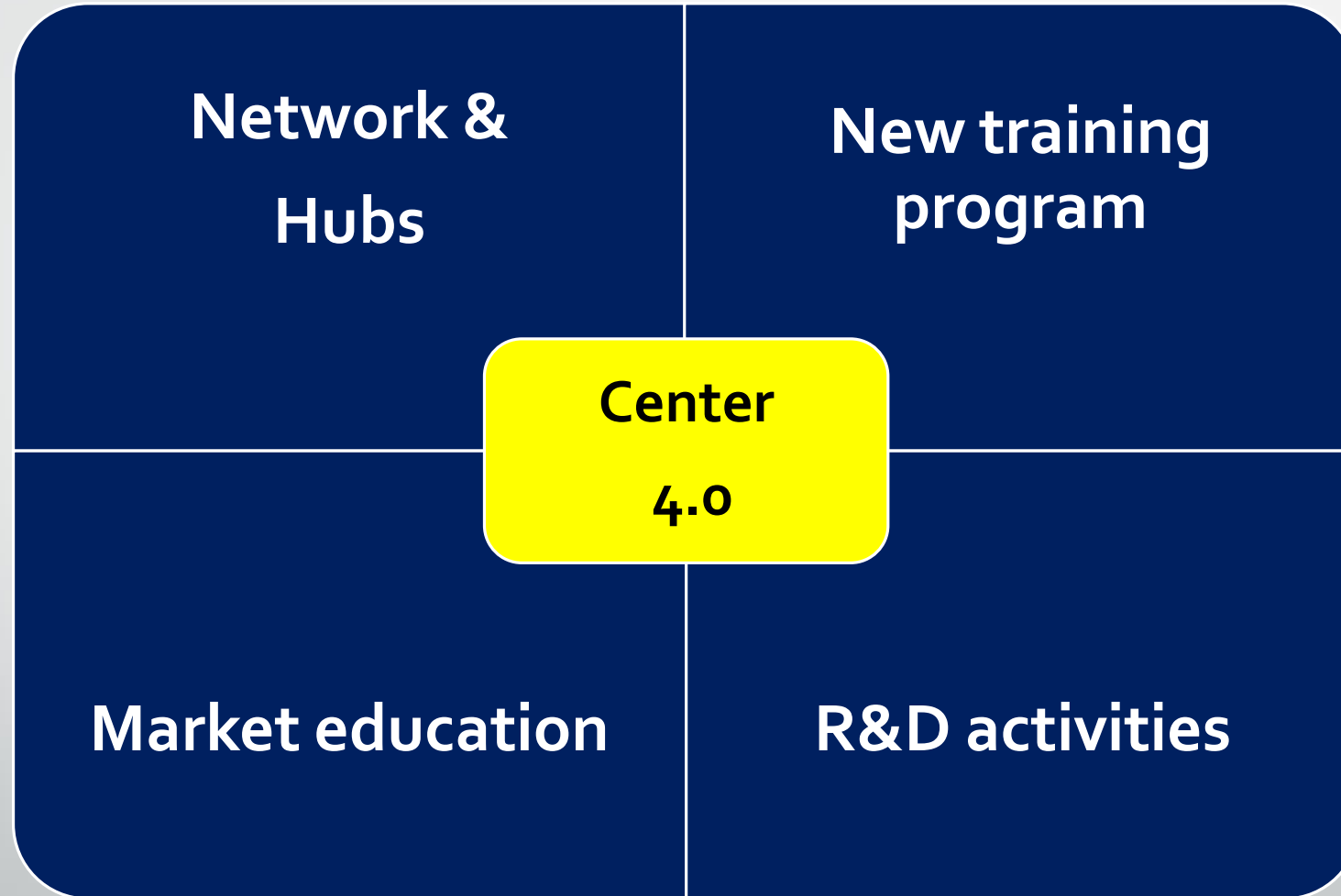- Losses in competitiveness
- Weak export

BRAIN DRAIN

IT-outsourcing
- Global markets
- Hi salaries
- Weak product approach

4 new roles of Center 4.0

Network & Hubs	**New training program**
Market education	**R&D activities**

Center 4.0

Clear functions, agreement and KPI

- Networking and Hub
  - Coordinated activity plan
  - Creation of industry & regional landscape 4.0
  - Engagement of innovator 4.0 to Center activities
- New training program
  - Number of new training programs in 4.0 technologies
- Market education
  - Number of conferences, articles, case-studies, white papers and so on
- R&D activity
  - Planning of own R&D activities
  - Active participation in Incubators / concurs / awards…

The network through Ukraine

Про регіональні центри

Створення регіональних осередків руху 4.0 на базі вибраних ВНЗ має на меті подолати низьку культуру та знання ринку про технології 4.0, низьку довіру ринку до ВНЗ як осередків знань, підготовки кадрів та надання сервісів з навчання та R&D. В перспективі ці осередки можуть ставати основою для створення відповідних кластерних структур чи технологічних парків.

ДЕТАЛЬНІШЕ

Sumy

Kharkiv

Kyiv

L'viv

Dnipro

Zaporizhzhia

Odessa

Typical scenario of opening Center 4.0
1st day conference

2d day - visiting leading enterprises

Interpipe steel
Case of vertical and horizontal integration in manufacturing

FED (machine-building)
Advanced Planning Scheduling (APS)

Results of 1ˢᵗ year in Center 4.0 'Odessa'

Main results in Odessa

- R&D activities
  - The most powerful Center: 300+ equipment units, 1300 m² of laboratories
  - Status of FabLab, Center of expertises (U.Robotics, Camozzi, FESTO etc)
  - Awards in many competitions in Robotics, Mechatronis, Automation
- Networking and Hub
  - Full of promo activites: 10 000 + people from all categories
  - Fixing 1st status-quo and starting networking with other Odessa universities
- New training program
  - Autodesk, FESTO, Phoenix contact / A.I., Robotics, Mechatronics
- Market education
  - 30+ events

Driving force of 4.0

Building IoT cluster collaboration program Poland-Ukraine

EaP / H2020

Creation regional innovative ecosystems

How to develop strong and well balanced regional, innovative ecosystem for industrial hi-tech

TUM International, Germany
Strategic session in Dnipro

Center 4.0

VS

DIH
(Digital Innovation Hubs)

Hub-laboratory Internet of things (HULIT)
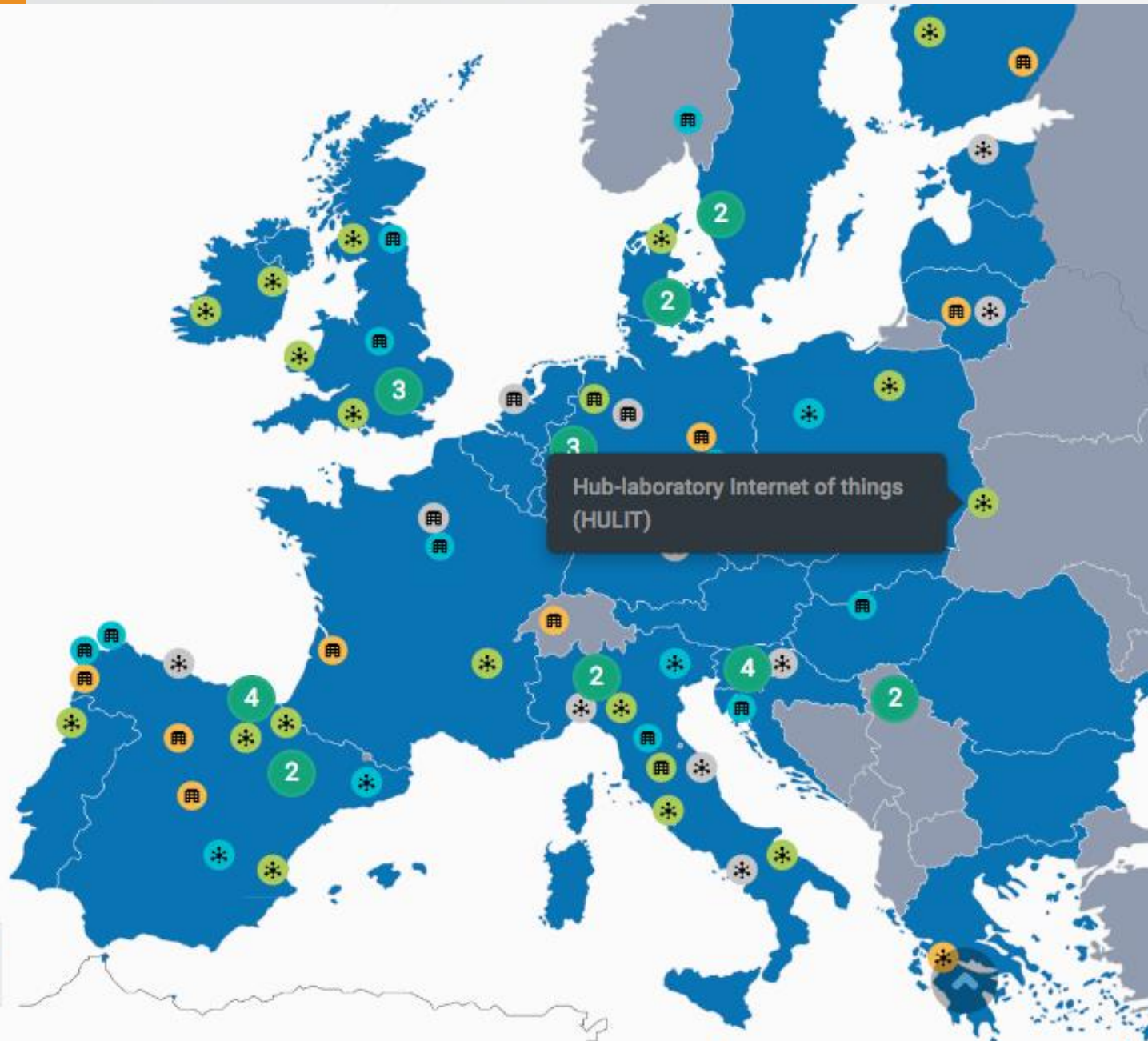
Roles and functions

- Digital expertise
- Testbeds and Labs
- Access to best expertise and solutions base
- Support in commercialization
- Development of innovative ecosystem
- Technologies brokerage
- Access to funds
- Accumulation of market expertise
- Training and education
- Incubation & mentoring

4 area of competences DIHs

Cloud-based HPC Simulation	**High-power computing**
Laser	**Advanced laser-based equipment**
SENSORS, CPS, IOT	**Smart Cyber Physical Systems and IoT**
Robotics	**Industrial robotics systems**

Джерело: I4MS http://i4ms.eu/

CIVITTA

National strategy

Industry 4.0

Projects 2019-21

National strategies 4.0 in Europe (12+9)

Industry 4.0: projects 2019-2021

Total budget is roughly 1 million euro

Lessons learnt

1. Strategy 4.0 should be at the national (**State**) level
2. Before integrated into EU ecosystem, University should **be integrated in own market context** (fault with TATU). Inner-based growth is more effective and faster.
3. State is (yet) a bad manager! Leadership should belong to **business-association**
4. **IT should be the key enabler** for digitization of Industrial hi-tech (but not as a 'self - centred' industry)
5. IT best practices for innovations are the best ones... but they should be **adapted for Industrial segments**
6. **Common, shared frameworks** and models help a lot (e.g. innovative ecosystems etc)
7. It's a **tough task** to make University 'market-oriented'... but achievable
8. Collaboration of stakeholders is really **a driving force**
9. International (EU) collaboration is still more beneficial! Common tools, platforms, experience... It can make huge impact on EaP, but all that should be in **right hands**.
10. Strategy is needed, but small**, well targeted and synchronized steps** should be taken as well

Cooperation and exchange points

1. We need and we are ready for **much stronger exchanges** with all 'early-mid maturity level' countries. Perhaps, we should have our own #ActionablePartnership programs **to fix-up all best practices**

2. The special focus on exchanges should be a key issue, common for EaP countries

   1. What is and how to develop **truly innovative ecosystem** for industrial hi-tech

   2. How to speed-up **cluster development** approach

   3. **How to engage** and **change** the least market-oriented, but the most valuable stakeholders (as Universities and Science)

3. Best practices for integration in EU programs

Any questions?

Thank you!