

# EUROPEAN CLUSTER CONFERENCE 2024

7-8 MAY 2024, BRUSSELS

#EUClusterConference

# Green Transition

**Kirsten Dunlop**, Chief Executive Officer, EIT Climate-KIC

**What may (really)  
change the  
(clusters) world  
in the next few  
years?**

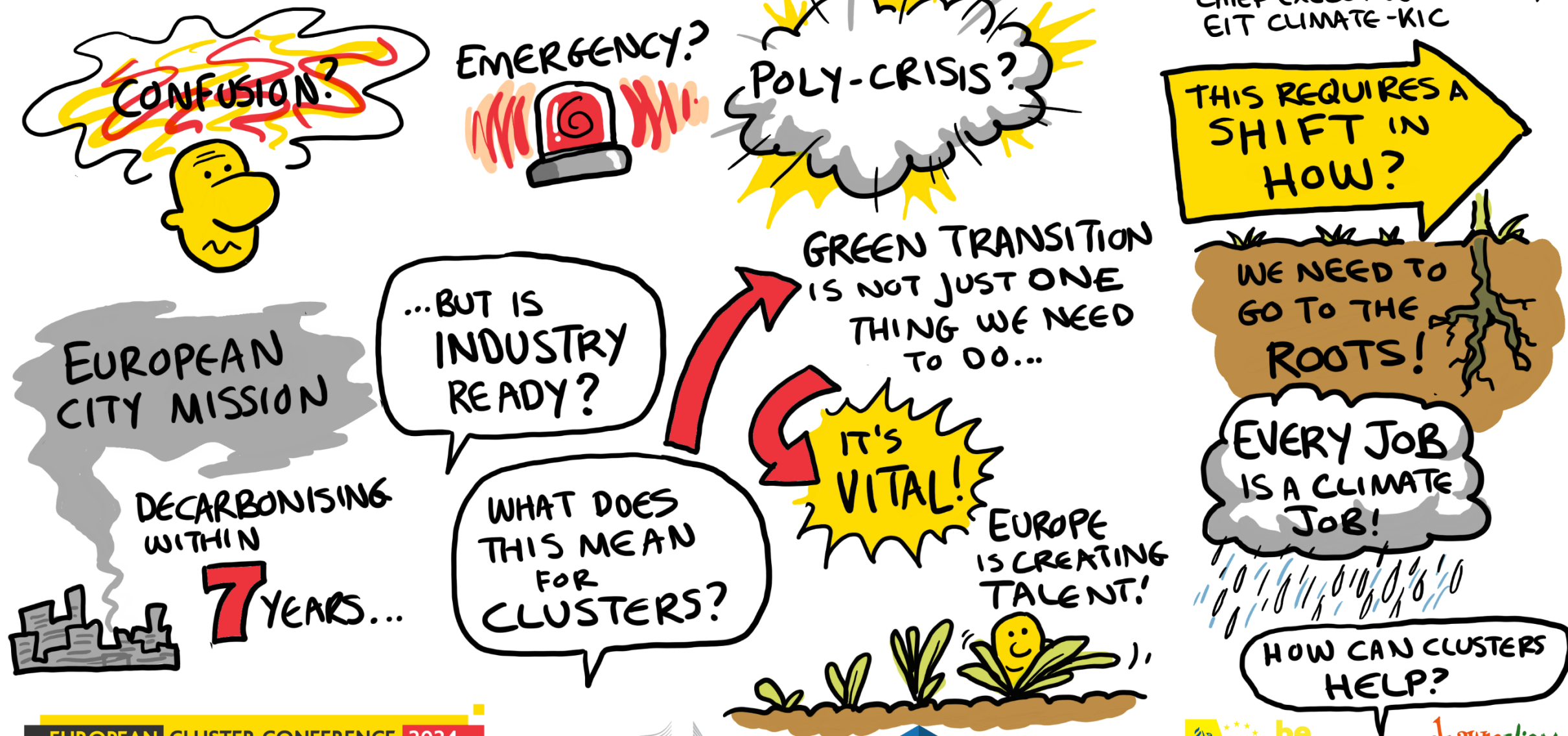
Collaboration Water stress  
Innovation War Legislation  
Recycling Wars overarching techs  
Elections Recognition programme  
AI Funding Regulations Youth Visibility  
Regulation Green project funding  
Urgency Crisis Skills The need for speed!

**What main  
barriers will  
clusters face  
in the next  
years?**

Top-down approach Longterm funding  
Relevant services to SME  
Material Capacity building Taiwan  
Regulation vs Reality use Engagement  
Diversity  
reuseESG Mindsets



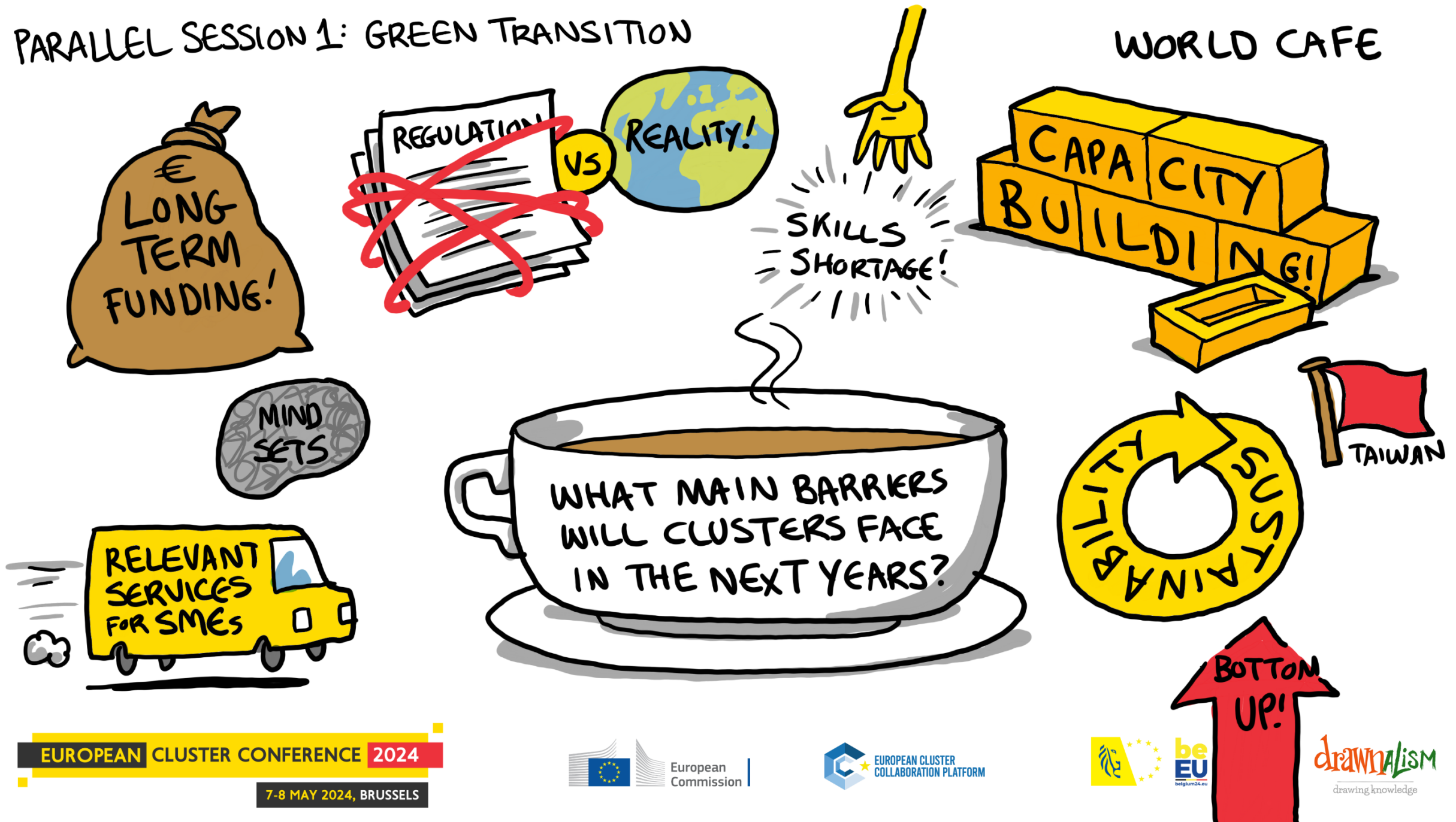
# PARALLEL SESSION 1: GREEN TRANSITION



KIRSTEN DUNLOP,  
CHIEF EXECUTIVE OFFICER,  
EIT CLIMATE-KIC

# PARALLEL SESSION 1: GREEN TRANSITION

## WORLD CAFE





# PARALLEL SESSION 1: GREEN TRANSITION

COOPERATION  
AND  
COLLABORATION



EU COMMISSIONER  
FOR CLUSTERS!



COMMON  
CLUSTER  
POLICY



LESS  
IS  
MORE!



WORLD CAFE

SUPPORT  
FROM REGIONAL  
& NATIONAL  
GOVERNMENTS!



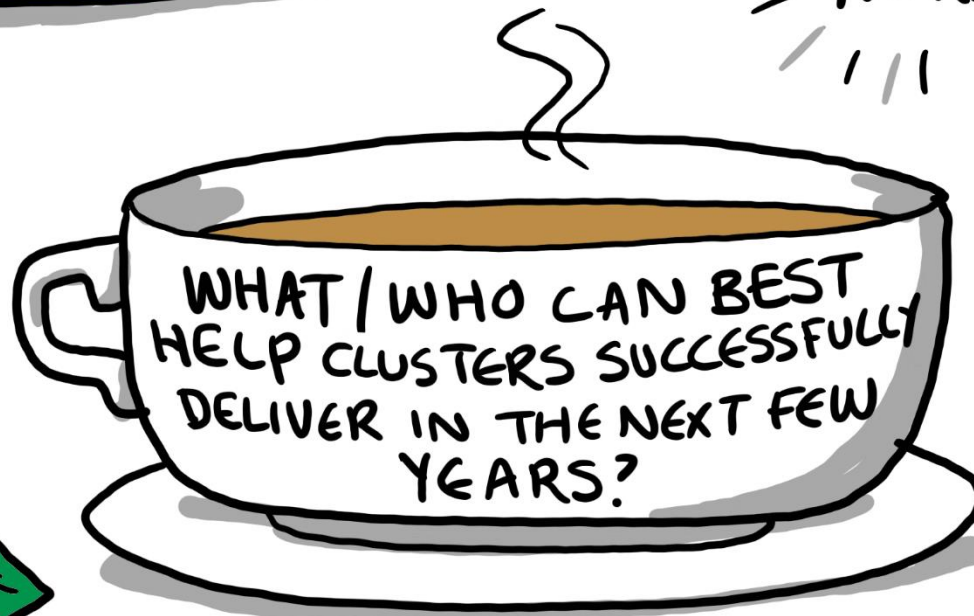
ACCESSIBLE  
SME  
FUNDINGS



GREEN  
DICTATORSHIP!



WHAT / WHO CAN BEST  
HELP CLUSTERS SUCCESSFULLY  
DELIVER IN THE NEXT FEW  
YEARS?

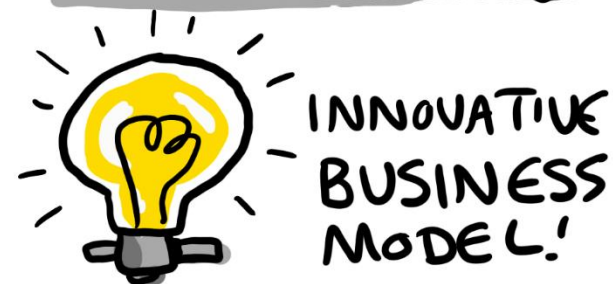


LESS RULES...  
... MORE

**ACTION!**



INNOVATIVE  
BUSINESS  
MODEL!



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# Digital Transition

**Jens Verbeeck**, CEO, Magics Technologies NV



Gefinancierd door  
de Europese Unie  
NextGenerationEU



MASTERING ONBOARD VISION INTELLIGENCE AND QUALITY

Follow us!



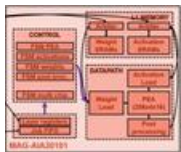
# Shaping the Future of Hyperspectral Earth Observation through AI and Onboard Intelligence

On-board AI-driven compression

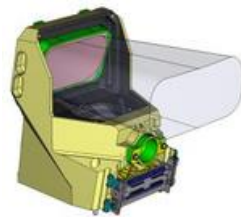
On-board change and anomaly detection  
for emergency-response and autonomy

Enhanced data processing efficiency

Multi-disciplinary EO capabilities

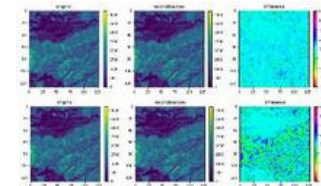


**MAGICS**

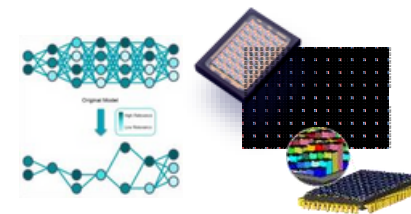


**OIP  
Space Instruments**

CORSA



CCSDS 123.0-B-2



**umec**



**REDWIRE**



# Leading digital transitions for space applications

- MOVIQ directly **addresses the need for an autonomous, intelligent remote-sensing solution** – with support for diverse, high-resolution imaging capabilities – for Earth observation and beyond
- The MOVIQ consortium consists **of leaders in semiconductor design, space platform integration, payload development, and embedded and vision AI** in Flanders
- The consortium is **leading digital transitions for high bandwidth imaging signals** with a complete value chain supported by cluster cooperation in Flanders.



# About Magics Technologies NV

Located in Geel, Belgium, Magics Technologies is a fabless semiconductor company focused on creating reliable enabling technology for the space and nuclear applications.

Magics utilizes a rad-hard-by-design methodology and library to continuously improve its product lines. This approach has resulted in the development of five ITAR-free product lines:

Motio

Time

Power

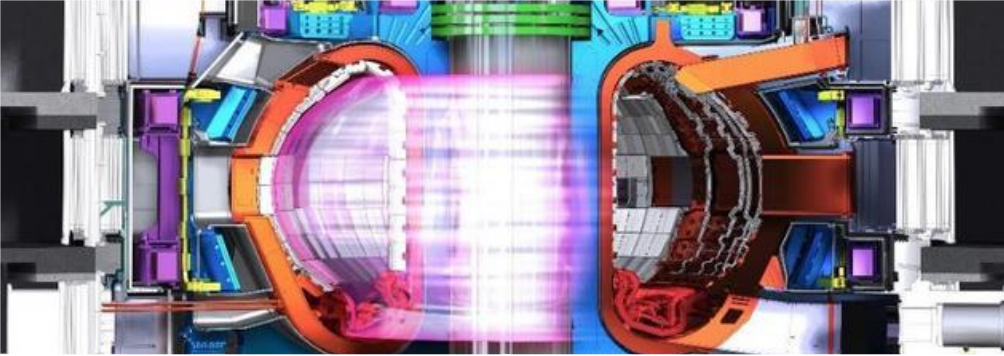
Vision


A


The strong growth drivers in Magics' niche markets - communication and real-time imaging in (new) space markets and growing energy markets (SMR, Fusion) - present tremendous opportunities for the company to expand its business. With the aspiration to become a leading supplier of radiation hardened semiconductors for the Energy, Space, and Defense markets. Magics is key to the digital transition in strategic segments for Europe by enabling semiconductors



# Enabling digitalization in high-radiation environments for improved safety, operations and autonomy

Motion	Power	Vision
NUCLEAR FUSION AND FISSION		
		
Digital and reliable I&C systems		Automation (AI)
Engineering services for components and (current) systems development		Improved fault-tolerance of automated grasping of objects
Digital readout systems for sensory information		Digital twins in waste management facilities
Actuation systems to enable precision remote handling operations		

Motion	Time	A
SPACE SUBSYSTEMS		
		
Sats	Landers	Rovers
Motion control of space-subsystems		
Measurements ranging via ToF for object detection		
Clocking, time-tagging and RF communication		
AI for On-board processing of images		

A
DEFENCE ISR

Drones / Defence / Space
Visual tracking of objects
AI for on-board processing



# AI series – fault-tolerant AI processors

Dedicated to empowering self-contained (edge), autonomous space and defence applications in the face of challenging power constraints and demanding computational needs

- ▶ MAG-AIA00001-IC (Tesla)  
power optimized for battery-powered applications
- ▶ MAG-AIA00101-SX (Moviq) – **rad-hard by design**  
power-efficiency optimized for high-performance applications
- ▶ MAG-AIA30101 – **rad-hard by design**  
size-scalable optimized softcore product



# The consortium cluster will create impact on several domains

- ▶ Autonomous robotics (UGV/UAV/USV)
- ▶ Smart satellites
  - Earth observation (ISR)
  - Autonomous monitoring of subsystems telemetry
  - Space situational awareness
  - Obstacle avoidance
- ▶ Smart camera/binocular
- ▶ Tactical AR/VR applications





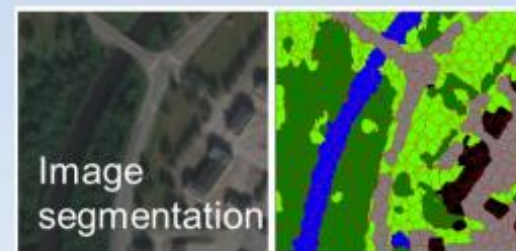
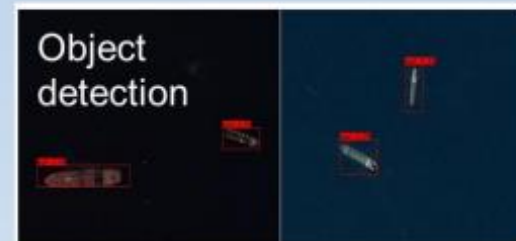
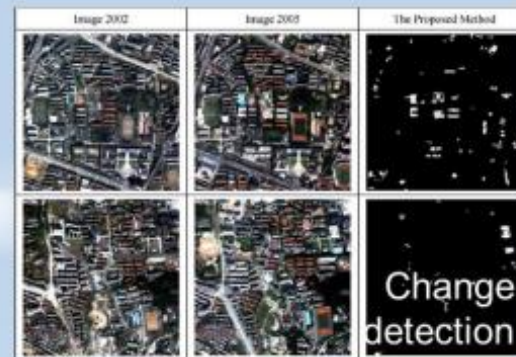
# Consortium and cluster project facilitated by Flanders Space

- ▶ Flanders Space unites all space actors in Flanders Flanders Space
- ▶ plays a vital role in the success of the roadmaps of consortium partners
  - Provides a significant collaborative R&D context Actively promote
  - collaboration within the local ecosystem through initiatives such as Imaging4Space working group
  - Represent Flemish Space industry in front of
    - National and regional governments
    - Belgian defence •European defence agency
  - Promote Flanders Space Industry in an international context
- ▶ A major source of funding for AI series: MOVIQ initiative (Flanders Space ICON)



# The Cluster is a first step to create and maintain a leading position in the space segment

- Digitalization in harsh environments brings value to society
  - Earth observation is major asset in the context of climate change and a changing world
  - Clean space and initiatives to ensure sustainable and safe space
  - SSA initiatives to ensure dependable space infrastructure
- Need for competitive EU supply chain to ensure strategic autonomy
- Flanders Space enables us to anchor our companies in the local ecosystem





# What may (really) change the (clusters) world in the next few years?

Thinking outside the box

Unclear use cases

Talentattractivity Social Geopolitics

New technologies

Norbert Synergies

India Cybersecurity Elections Economies

China AI War NOT AI

Resilience Funding Trust

People Defence Collaboration Money

Public policies

Superclusters - collaboration public-private partnership

More clusters Proper organisation

**What main barriers  
will clusters face  
in the next years?**

Global competition

Short time to

Lack of awareness

Strategies

Lack of skills

Transparency

Strategy

Red tape

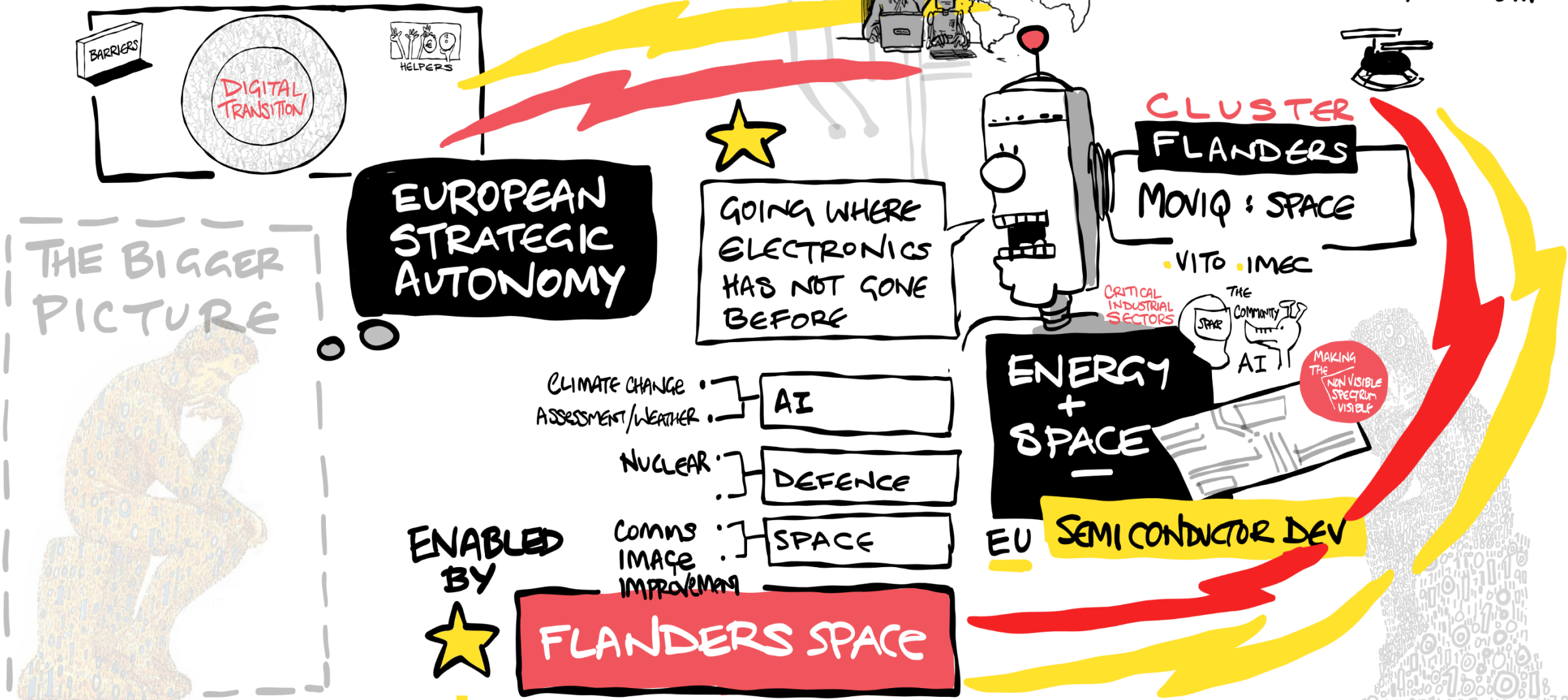
Lack of funding

Mindset

Unified strategy

# PARALLEL SESSION 2: DIGITAL TRANSITION

JENS VERBEECK,  
CEO, MAGICS TECHNOLOGIES NV



EUROPEAN CLUSTER CONFERENCE 2024

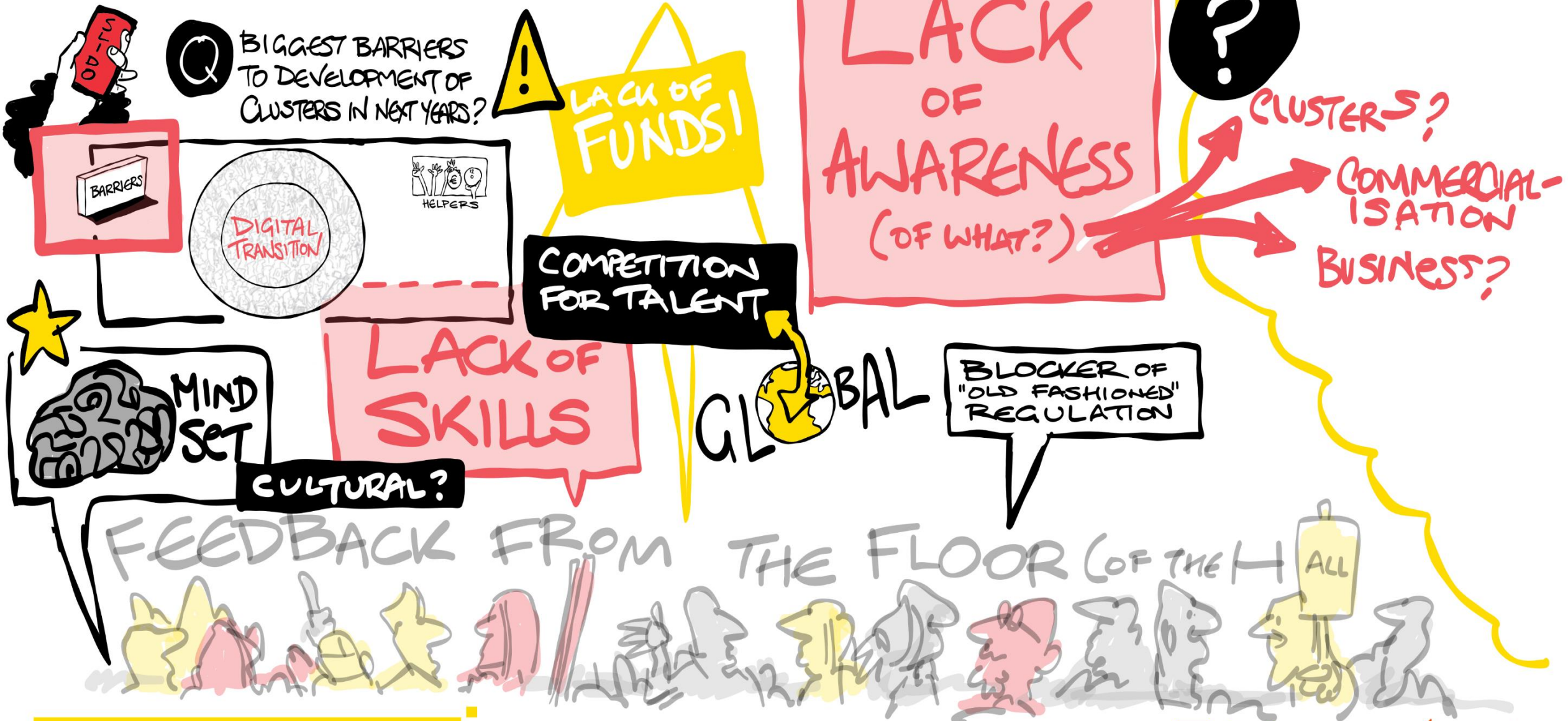
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drawnALISM  
drawing knowledge



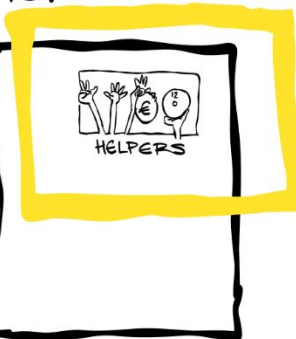
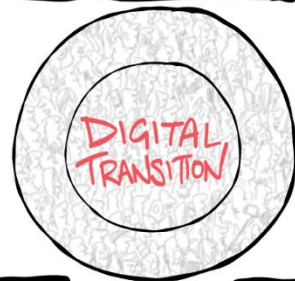
# PARALLEL SESSION 2: DIGITAL TRANSITION





# PARALLEL SESSION 2: DIGITAL TRANSITION

Q WHAT CAN BEST HELP CLUSTERS SUCCESSFULLY DELIVER IN THE NEXT YEARS?



INTRA  
TRAINING OF THE CLUSTER MANAGEMENT  
CLUSTER GROWTH  
ACTIVITY  
OUTREACH

AVOID SILO

CROSS BORDER TRANSACTION

- NATIONAL
- LOCAL
- REGIONAL

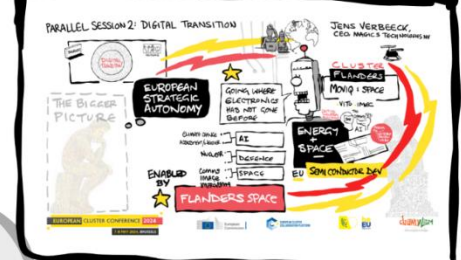
CLEAR KPIs  
<ACCOUNTABILITY>



FEEDBACK FROM THE FLOOR (OF THE H)



## INSIGHTS JENS:



CLUSTERS: INTRODUCTION TO THE WHOLE VALUECHAIN



CLUSTERS AS AGGREGATORS FOR WICKED CHALLENGES ... EC, CYBER SECURITY

# Resilience Building

**Olga Shapoval**, Executive Director, Kharkiv IT Cluster





**KHARKIV  
IT CLUSTER**

# CLUSTER COMMUNITY AS A BASE OF RESILIENCE

The story of the Kharkiv born



# ABOUT KHARKIV IT CLUSTER

We are a non-governmental idea-based organization established in 2015 by six IT SMEs.

Mission: Developing technology business ecosystem  
Rooted in Kharkiv, expanding globally!

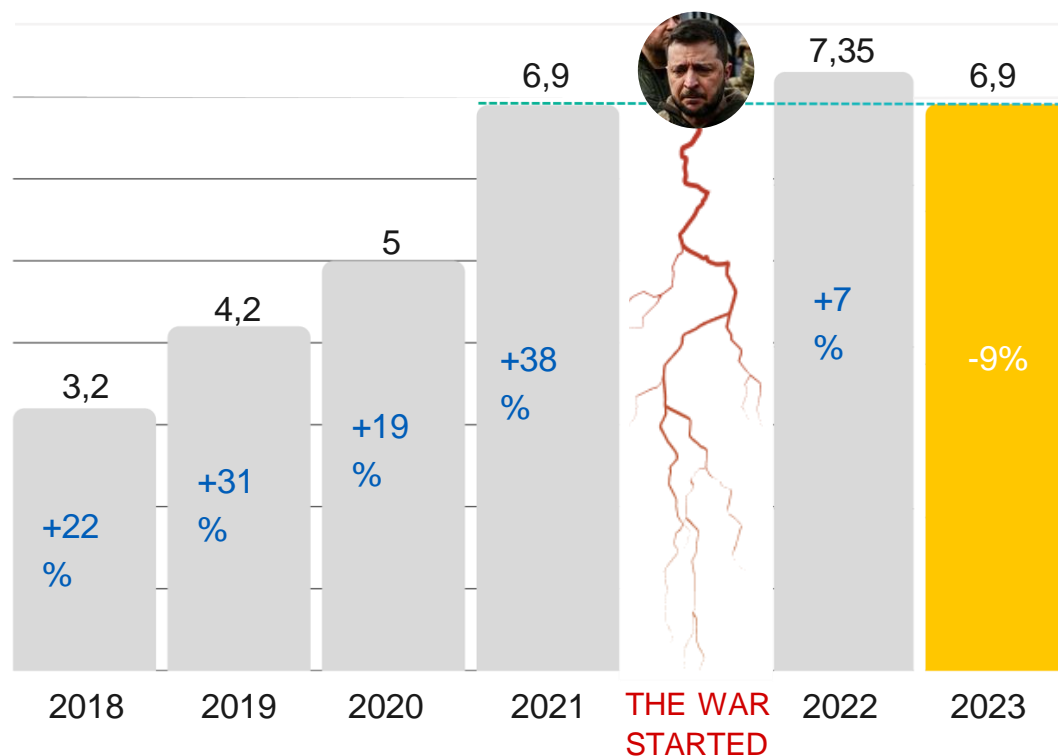
- 100+ Members and partners united Software
- 10k+ engineers involved in the Community.
- 10+ Implemented projects in partnership with TECH companies, universities and authorities.
- 50% Of the operational team's resources are allocated to education and R&D projects.





# UKRAINE TECH INDUSTRY HAS DEVELOPED RAPIDLY

VOLUME OF TECH SOLUTIONS & TECH PRODUCTS  
EXPORT, USD BILLION



KHARKIV IS THE HEART  
OF TECH EDUCATION AND IS THE TOP  
RESOURCE CENTER IN UKRAINE

500+

TECH COMPANIES  
IN THE KHARKIV  
TECH INDUSTRY

50K

THE NUMBER OF TECH PROFESSIONALS  
IN THE KHARKIV TECH INDUSTRY (\*) \*

01.01.2022



**KHARKIV  
IT CLUSTER**

**WE CONSOLIDATE 70%  
OF KHARKIV TECH INDUSTRY**

We are the unique contact point to  
find excellent technology partner  
from Ukraine

IRELAND

#StandWithUkraine

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USA

BELGIUM

POLAND

GERMANY CZECH  
REPUBLIC

♥  
UKRAINE

♥ KHARKIV

OUR HEARTS  
ARE HERE

FRANCE

AUSTRIA

HUNGARY

ROMANIA

SPAIN

ITALY

BULGARIA

DISTRIBUTED WORK OF TECH TEAMS  
ALL OVER UKRAINE AND THE WORLD

GREECE

TURKEY



IRELAND

# WE JOIN



BELGIUM



EEN-Ukraine  
consortium



POLAND



OUR HEARTS  
ARE HERE



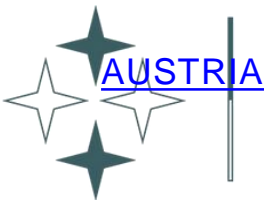
APPAU



GERMANY CZECH REPUBLIC



FRANCE



HUNGARY

ROMANIA

SPAIN

# WE APPLY FOR

ITALY

BULGARIA



**EASTERN UKRAINE**

European Digital Innovation Hub

GREECE  
E

TURKEY





# OUR WAY TO RESILIENCE:

- TO SERVE - TO SUPPORT -  
EMPOWER SHARING - ACT FAST  
AND STAY STRONG





x2

Kharkiv IT Cluster  
doubled the quantity of  
members in 2022

Only 1  
company  
from all Cluster  
community

STOPPED THEIR  
ACTIVITY

All other  
members

CONSOLIDATED AND  
STAY RESILIENT!



# LET'S BE RESILIENT TOGETHER

1 GET CONNECT  
on LinkedIn



LinkedIn

2. Let's plan a personal meeting to  
discuss common opportunities



Calendly

**What may (really)  
change the  
(clusters) world  
in the next few  
years?**

collaboration Technology Need-driven innovation  
Political support Semiconductors  
Defense War Crisis Startups  
People AI Skills Sustainability  
Shared value Trust Scarcity  
Globalization Politics  
Internal EU tensions Staying behind  
Selfishness  
True and Deep cooperation

**What main  
barriers will  
clusters face  
in the next  
years?**

