European Commission

Industry 4.0 Collaboration in Central Europe (CE)
"How to stimulate CE Involvement in I40 Networks and Initiatives"

Expert workshop to present the industry 4.0 study and discuss possible action tracks

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Dr Emmanuel Boudard
Brussels, 14th November 2019

Agenda

16:00 – 16:15: Welcome, context and tour de table

Introduction - Alexandra Olajos-Szabó – European Commission

16:15 – 16:30: Presentation of the CE study: findings and conclusions

Emmanuel Boudard – N-ABLE

16:30 – 17:00: Validation and amendments of findings and conclusions

Open Discussion on study results, key findings and conclusions

17:00 – 17:55: **Action tracks and policy implications**

Emmanuel Boudard – N-ABLE / Q&A

Open Discussion on the recommendations and their practical implementation

17:55 – 18:00: Conclusion and next steps – toward a final list of action tracks

Alexandra Olajos-Szabó – European Commission

Industry 4.0 in CE

1. Welcome, context and tour de table

Alexandra Olajos-Szabó – European Commission

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Industry 4.0 in CE

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1. Goal of the meeting

**Study: analysis of drivers and barriers
to CE participation in i4.0**

Validate:
- **Preliminary results**
- **Key findings**
- **Conclusions**

Test:
- **The action tracks,**
- **Next steps**
- **Policy implications**

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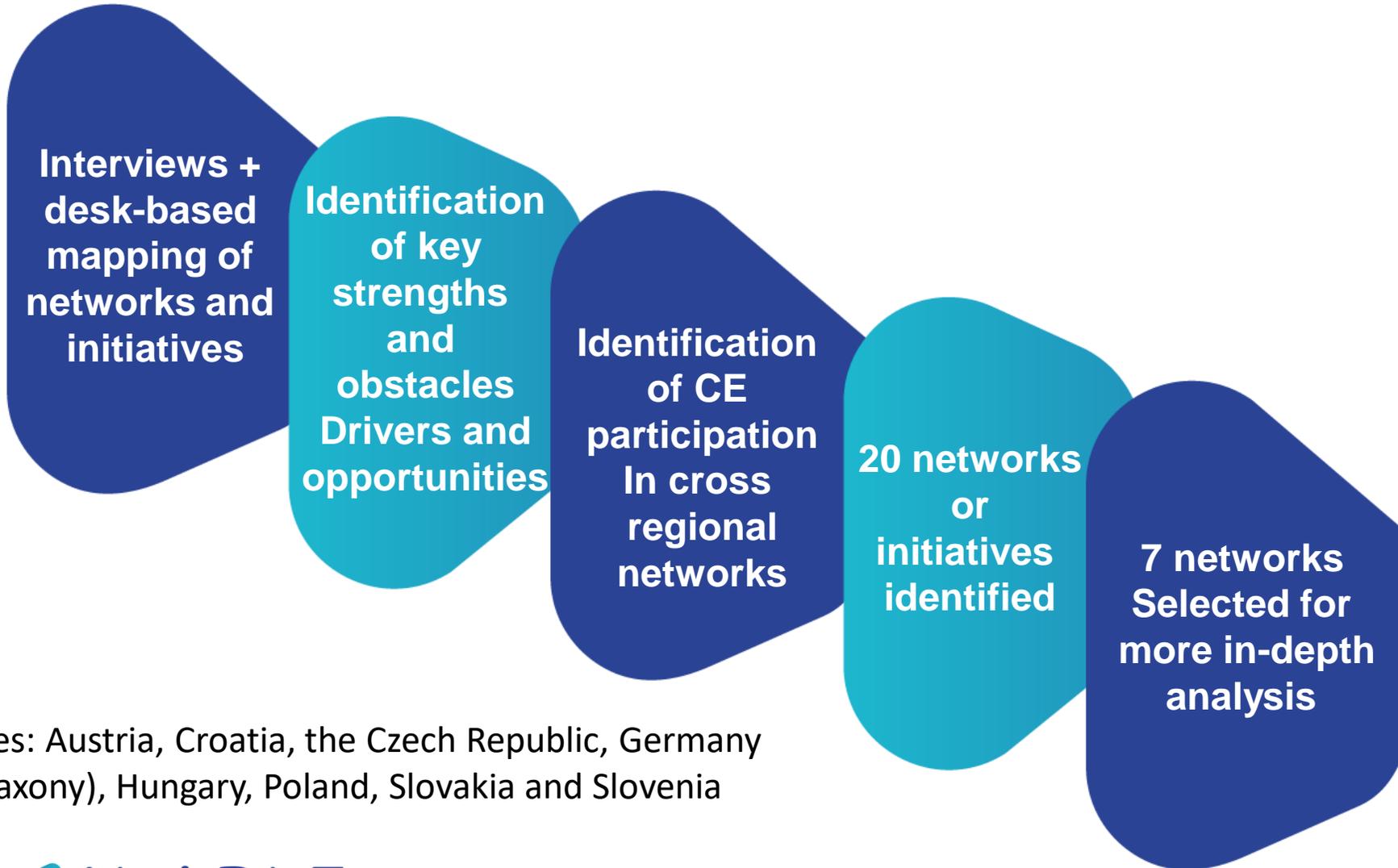# 2. Presentation of the CE study: findings and conclusions

Context, methodology, and preliminary results, key findings and conclusions

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2. Support the cooperation activities of the CE regions in the thematic field of Industry 4.0

1. **Capitalize** on previous events organized in the context of the S3CE initiative: on Industry 4.0 (Budapest, 20-21 Sept. 2017), Smart Towns (Ljubljana, 29-30 Dec. 2017) and Food Industry 4.0 (Budapest, 4-5 April, 2018)

2. **Identify opportunities for a network-based strategy** aimed at leveraging the Thematic Smart Specialisation Platform (TSSP) and other EU wide or regional networks in I4.0

3. **Produce an action plan to activate Central European organisations** in line with the topics relevant to these networks in order to help CE MSs to get better connected

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3. Key steps for the study

Interviews + desk-based mapping of networks and initiatives

Identification of key strengths and obstacles Drivers and opportunities

Identification of CE participation In cross regional networks

20 networks or initiatives identified

7 networks Selected for more in-depth analysis

CE countries: Austria, Croatia, the Czech Republic, Germany (Bavaria, Saxony), Hungary, Poland, Slovakia and Slovenia

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4. Key strengths in i4.0

- Urban, large companies and tier 1 suppliers (foreign ownership)
- **Sectorial strengths:** Agriculture (especially SI & CR), Automotive (HU, SK, SI) and white goods (SI), Food industry, for example for apples / juice (PL)
- **Technological capabilities:** automatization, process automatization, and robotization (SI); automation, sensors, VR, IoT tech coming from the automotive sector is transferred to other sectors through ICT associations (HU)
- Small size (more dynamic)
- National funding (SI and CZ are dynamic with agencies)
- National I4.0 platforms (newly created or under creation)

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5. Obstacles

o Lack of trust and understanding across regions (fair return)

o Capital expenditures (CAPEX)

o Skilled workforce (technology, and to collaborate internationally in English)

o Lack of demonstrators (cost, tech, soft, HR) and up-to-date infrastructure (DIH, etc..)

o Lack of national champions

o Norms (preventing new tech.)

o Fragmentation (HE, RTO, intermediaries, ..)

o Lack of intermediary players to support the deployment at a large scale

6. Drivers

o EC funding: INTERREG, DIH, H2020, KIC/EIT, Twining…

o CE taking leading positions in consortiums / platform

o PPP with CE in the lead / participants

o Demonstrators located in CE countries

o B2B meetings to visit demonstrators located in others countries

o Coordinated reginal governance (ex. Joining Vanguard ?)

o Create or strengthen intermediary structures (connections / collaboration, etc)

o Trust and connection with other people

o Lack of skilled workforce -> automatization ….

o Replication from DE, AT, SE industrialised countries…

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6. Opportunities

- o National initiatives bridging with the market: pilot and demonstration support (Vanguard, TSSP, etc). Need for reinforced support toward market oriented innovation support…

- o EU initiatives bridging with the market: enlarge the networks, develop connections, transfer of knowledge, etc…

- o Initiative from one country: AT Ind. 4.0 platform signed a memorandum of understanding with: DE, CH, and the CZ and cooperates closely with: PL, SI, SK, HU

- o Existing networks: both formal but also informal …

- o New approaches such as Circular Economy: traceability for food, recycling in the automotive sector (the electric motor and magnets, ..)

- o New or reinforced intermediary organisations & sufficiently staffed: TACR has 10 years (CZ), others….

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7. 10 networks not dependant on EC funds

#	CE sustainable Networks	CE Countries	Resources
1	Industry platform 4.0[1]	Austria	****
2	Alliance Society 4.0 (Prumysl industry 4.0)	Czech Rep	**
3	IPAR 4.0 National Technology Platform	Hungary	***
4	Network / Initiative for Polish Industry 4.0 - The future Industry Platform or ITEE	Poland	**
5	German Industry 4.0 Platform	Germany	****
6	SRIP Factories of the Future/JSI	Slovenia	**
7	Croatian Chamber of Economy or digitalisation platform	Croatian	*
8	Silicon Saxony	Germany	****
9	Smart Industry Platform established under the "Smart Industry" initiative	Slovakia	*
10	Vanguard Initiative	AT, DE, PL, SI	*

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8. EU dependant networks

#	Eye on EU-level networks	CEE Countries participation
1	Smart Eureka Industry 4.0[1]	AT, CZ, DE, SI, SK, PL
2	EFFRA	AT, DE, PL, SI, SK
3	Food Drink Europe	AT, CZ, DE, HU, PL, SI, SK
4	EIT food	AT, CZ, DE, HU, PL, SI, SK
5	EIT digital	DE, HU, HR, SI
6	EIT manufacturing	AT, CZ, DE, SK (under development)
7	EPP Network	AT, CZ, DE, PL, SI
8	Digital Innovation Hubs	AT, HR, CZ, DE, HU, PL, SI
9	CECIMO	AT, CZ, DE
10	ECHORD++	CZ, DE, SI

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8bis. EU dependant networks

#	Eye on EU-level networks	CEE Countries participation
11	**EU ROBOTICS (SPARC)**	AT, HR, CZ, DE, HU, PL, SI, SK
12	**I4MS**	AT, HR, DE, HU, PL, SI
13	**IOTA**	DE
14	**INTERREG-based Networks**	EU
15	**Thematic Smart Specialisation Platform (TSSP) Industry Modernisation and in particular the Partnership on Industry 4.0**	AT, HU, SI, PL, CZ, DE
16	**IPCEI Forum on industrial IoT**	ALL
17	**ERASMUS network**	ALL
18	**H2020 networks (ERA-Net MANUNET, AM Platform, EIP/ETP/thematic networks, etc.)**	ALL
19	**Eurostars**	AT, HR, CZ, DE, HU, PL, SI, SK
20	**ASTM Committee and equivalent standardisation instances for advanced manufacturing**	EU

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9. Selection of 7 cases

3 main criteria:

o **Industry 4.0 representation** - the best national representation of Industry 4.0 collaborations, especially in the international context

o **Sustainability** - networks/ initiatives that are independent from EU funding and therefore show potential sustainability

o **Maturity** - represented by the formalization of their organization to achieve their initial objectives (more **** or less *) and their support to other platforms

CE is present in EU networks but in an uneven fashion (different levels of proactivity)

CE collaboration initiatives tend to push toward collaborations with Western parts of CE (AT, DE). Networks seem to be bound to specific collaborations or diluted at a European scale,

No existence of a CE area to build capacity and channel better

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9bis. Selection of 7 cases

#	Selected Networks / Initiatives	Organisation setup (Y/N)	Degree of maturity	Support others (Y/N)
1	Industry platform 4.0 (AT)	Y	****	Y
2	Alliance Society 4.0 (Prumysl industry 4.0) (CZ)	Y	***	N
3	IPAR 4.0 National Technology Platform (HU)	N (association)	**	N
4	Network / Initiative for Polish Industry 4.0 - The future Industry Platform or ITEE (PL)	N	**	N
5	Germany Industry 4.0 Platform (DE)	Y	****	Y
6	SRIP Factories of the Future/JSI (SI)	Y	***	N
7	Vanguard Initiative	Y	***	Y

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3. Validation and amendments of findings and conclusions

Open Discussion on study results, key findings and conclusions

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10. Added value and challenges

Crossing above results lead to:

o **Added value of these networks**: availability or facilitated access to funding but also knowledge, especially Good Practices (ex: viable business model for pilot factory, organisational tips, …); network development (experts, stakeholders, etc..) and sharing resources (access to EU calls, etc)

o **Challenges of these networks**: efficiency of national authorities (slow decision), lack of funding and resources (to get stakeholders interest – carrot and to be active - HR), missing opportunities for EU networking (rarely called to be a partner or even a coordinator), missing trust (across members), and interest (companies lose interest = lack of benefits)

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4. Action tracks and policy implications

Open Discussion on the recommendations and their practical implementation

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10. Tentative list of action tracks

Questions:

1. Would you agree?
2. Can it help for developing collaborations?
3. What would be the incentive?
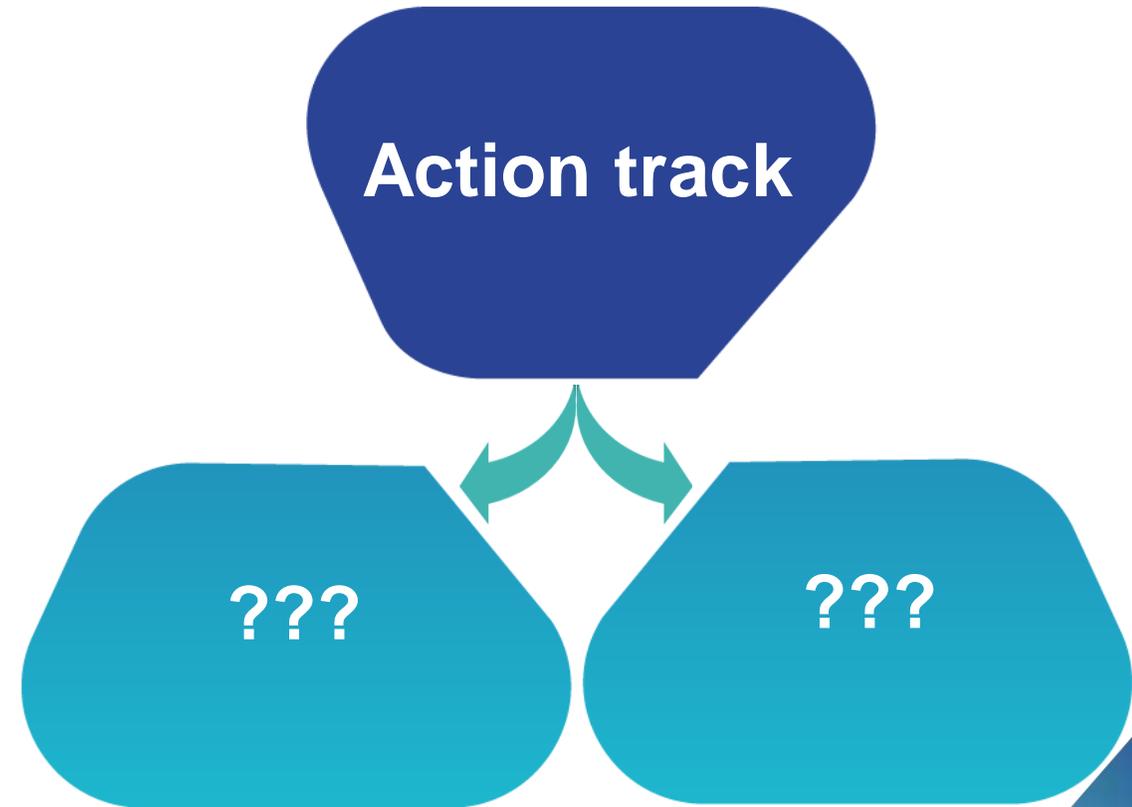4. Would you rank these proposals differently?

Action track

Selected or modified

Eliminated

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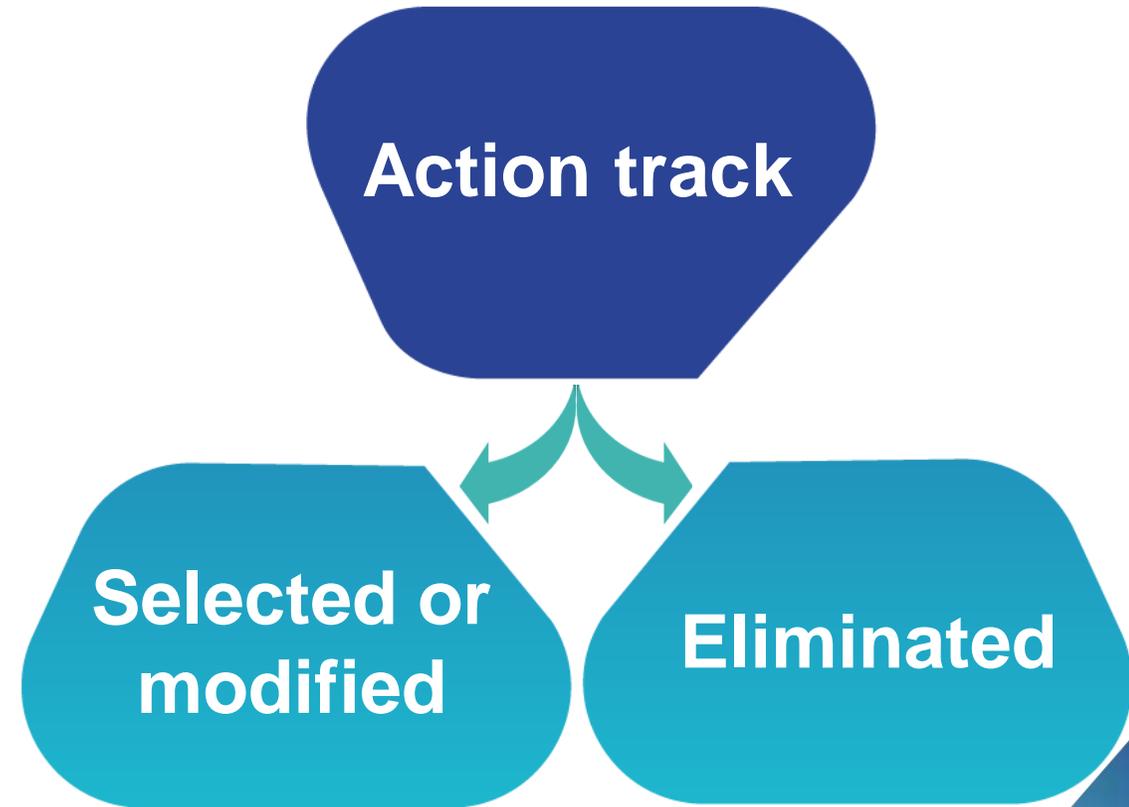
11. Action track 1: Umbrella organisation

Should the European Commission setup a **structured Umbrella organisation** to engage with stakeholders of the CE platforms.

This Umbrella organisation would prepare/ facilitate joint actions, or coordinated actions, or peer learning, etc…

Ex: CE regions/ countries industry 4.0 initiatives grouped under a virtual platform. It would provide a brokerage forum for collaboration, a unique organisation for issuing joint calls for tenders (see INTERREG office in CE countries)

Ex: CE research agencies team up

Action track

???   **???**

1. **Would you agree?**
2. **Can it help for developing collaborations?**
3. **What would be the incentive?**
4. **Would you rank these proposals differently?**

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12. Action track 2: Efficient Influence

Find incentives for stakeholders receiving funds to **look for complementary funds**.

In CE countries, ESIF is mostly used for single projects (not collaborative ones). Use a similar model but not identical to convertible loans.

Ex: In HU, a repayable support is provided with conditions. If conditions are met, there is no need to repay it. Otherwise, it has to be repaid.

Ex: French clusters will receive governmental funds only as a top up to other sources of funds (membership, EU funds, etc..)
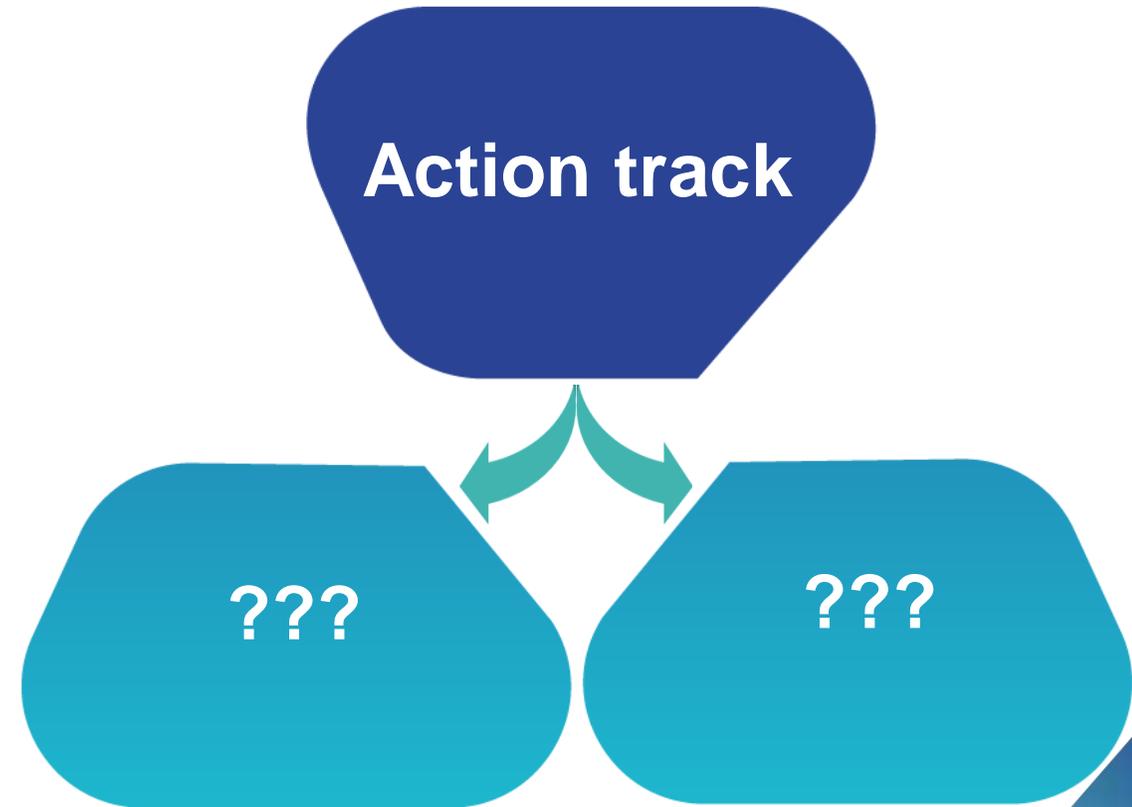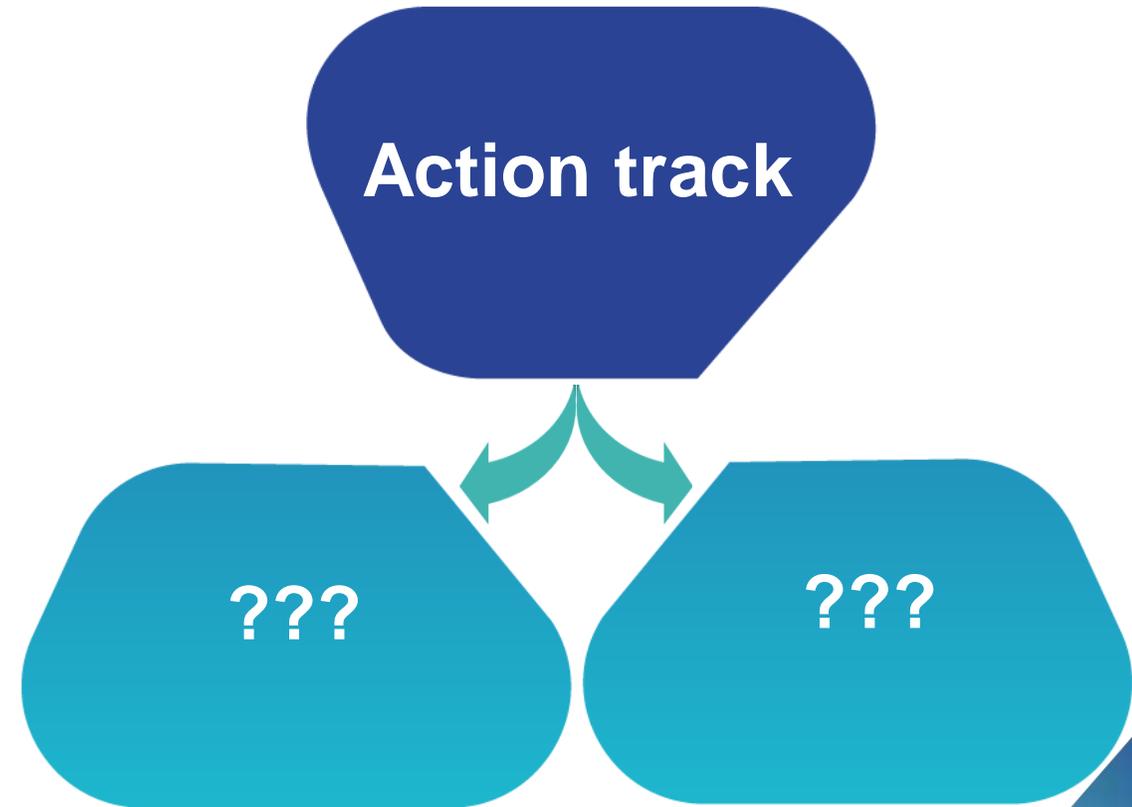
Action track

???   **???**

1. **Would you agree?**
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13. Action track 3: Awareness raising toward CE ecosystems

Propose **soft actions** such as brokerage events, virtual incubator for CE platforms, that do not impose a heavy burden over the shoulders of CE countries, etc...

Ex: the HU conference targeting specific stakeholders such as intermediary organisation or sectors or industries across the CE regions
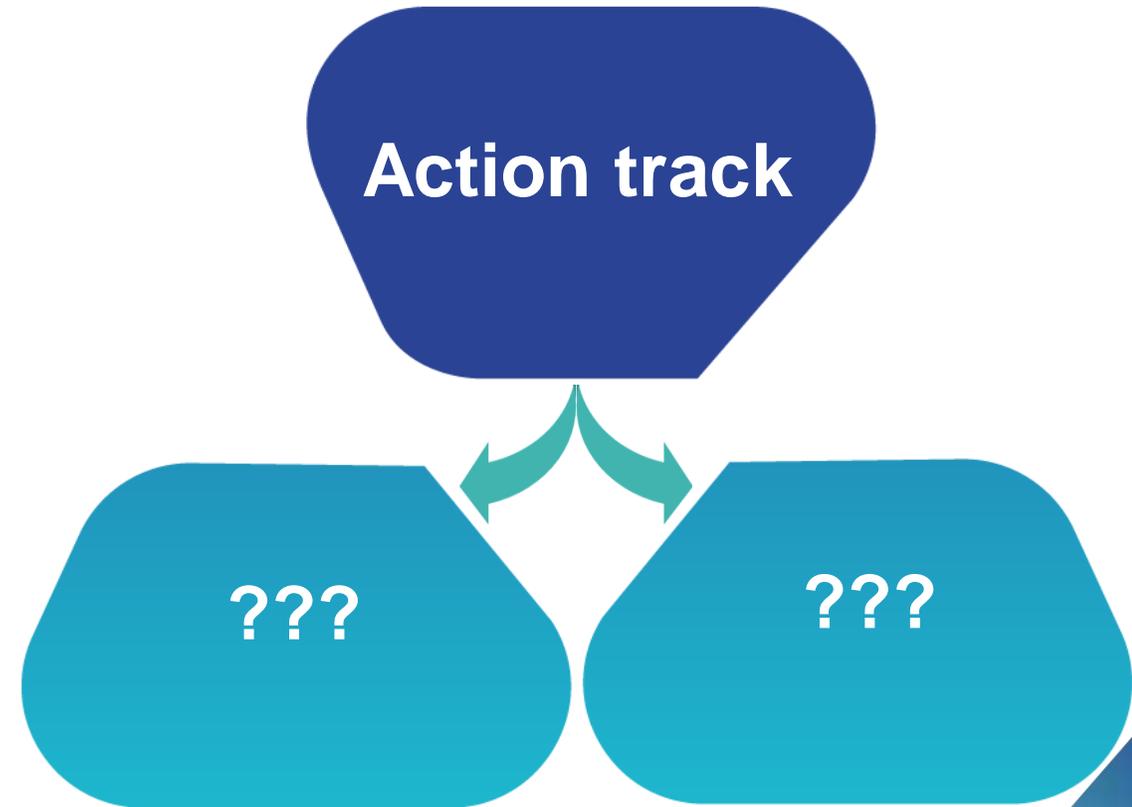
Action track

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14. Action track 4: Soft Instruments for match making

Should the European Commission setup **soft instruments**. These will be used for match making events in CE countries (and outside), other, etc...

Ex: The CE match making event targeting specific stakeholders such as intermediary organisation or sector
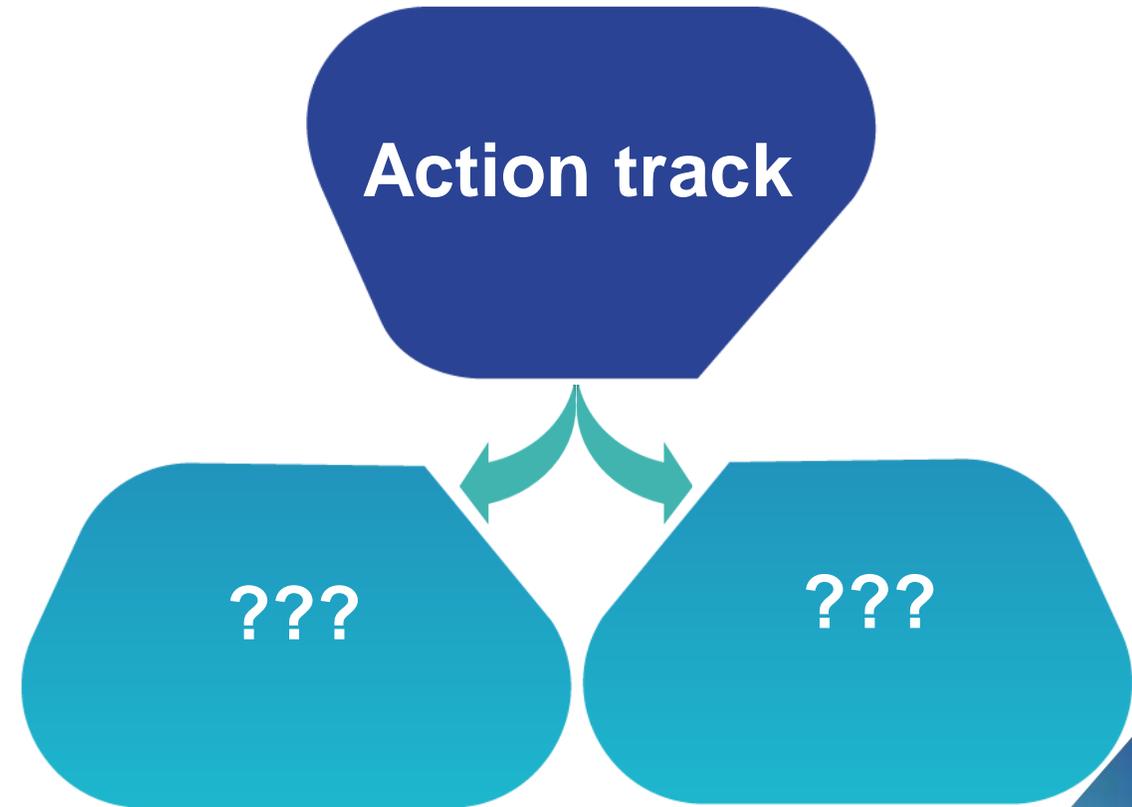
Action track

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15. Action track 5: Capacity building at intermediary/ supervision levels

The European Commission could finance **formal or informal training** for intermediary organisations – capacity building, etc..

Ex: the European Commission finance a network of National Contact Points (NCPs) to provide guidance, practical information and assistance on all aspects of participation in Horizon 2020. The European Commission also finance capacity building across countries on specific topics
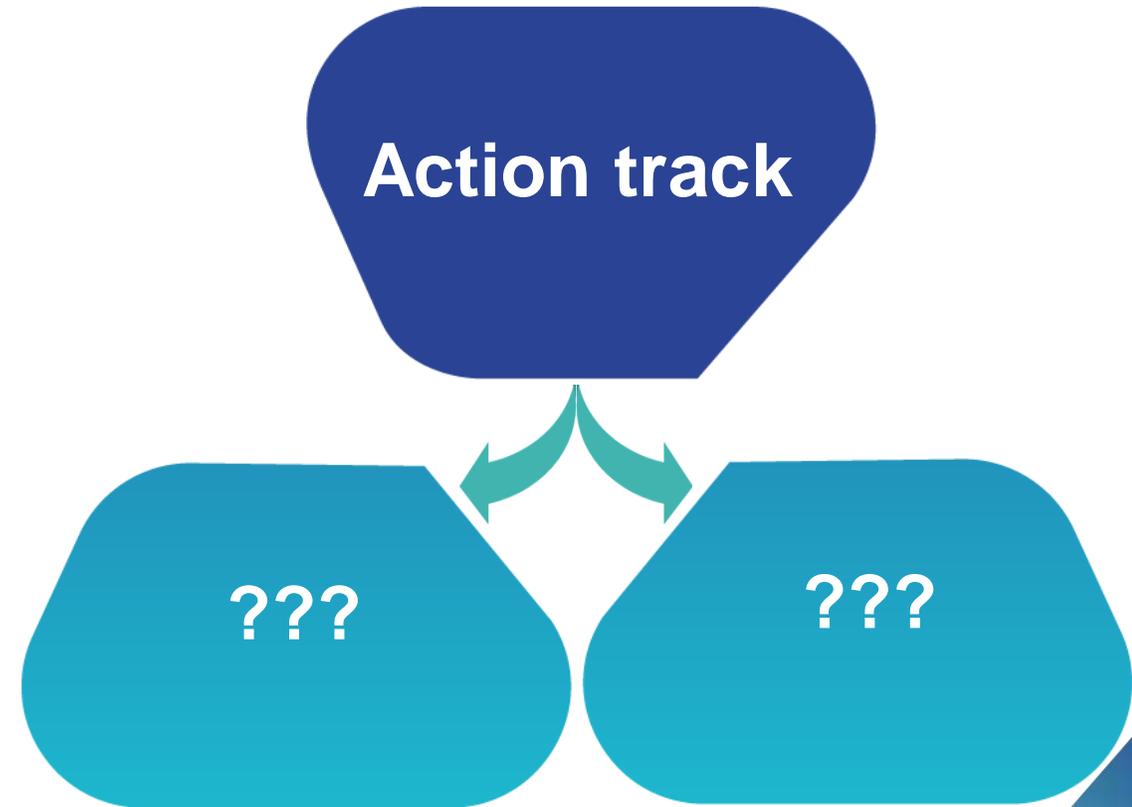
Action track

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16. Action track 6: Strategy and vision building

Most partners in CE countries/ regions are afraid of a fair return. They prefer international collaborative projects (H2020) because funded projects offer a fair return (results vs low costs). The Human Capital is a crucial element. People drive a network and search for expertise. The human factor implies that "we" **need to know each other and trust each other to collaborate**. When human connexion is made, it can open opportunities at different time scales

Ex: SI demonstrates the capacity of its facilities, paying for travel costs, and demonstrating them

Action track

???　　**???**

1. **Would you agree?**
2. **Can it help for developing collaborations?**
3. **What would be the incentive?**
4. **Would you rank these proposals differently?**

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16. Action track 7: Visible knowledge repository

A **knowledge repository** would provide an overview of what is available in terms of technologies according to the needs instead of partial knowledge as currently available from any consulting company / manufacturer.

An exchange of experience for CE countries on: pilot factories (viable business model, etc), leaving labs, DIH, etc... would spread viable business models, organisational tips, and good practices exchanges, etc...

Ex: the Vanguard Initiative is a key entry point to a unique network of research and technology infrastructure as well as associated equipment. It currently acts as an information repository. It allows for match-making of any organisation with any relevant infrastructure/organisation
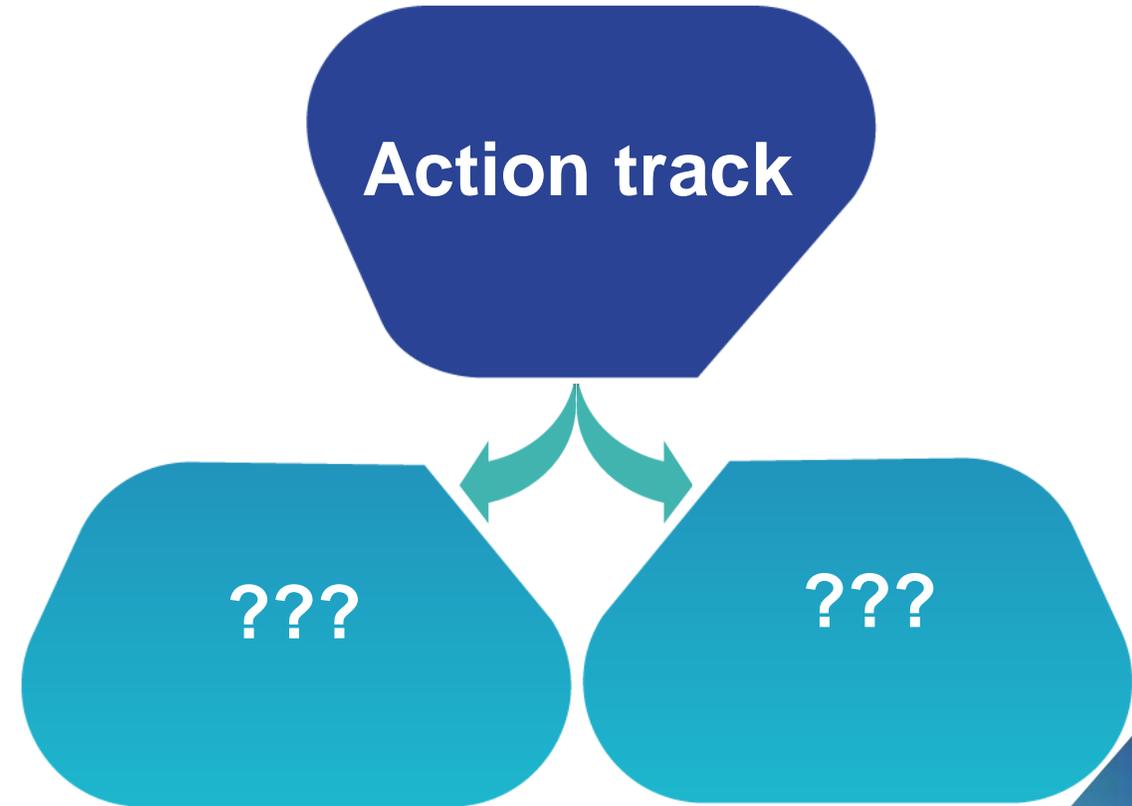
Action track

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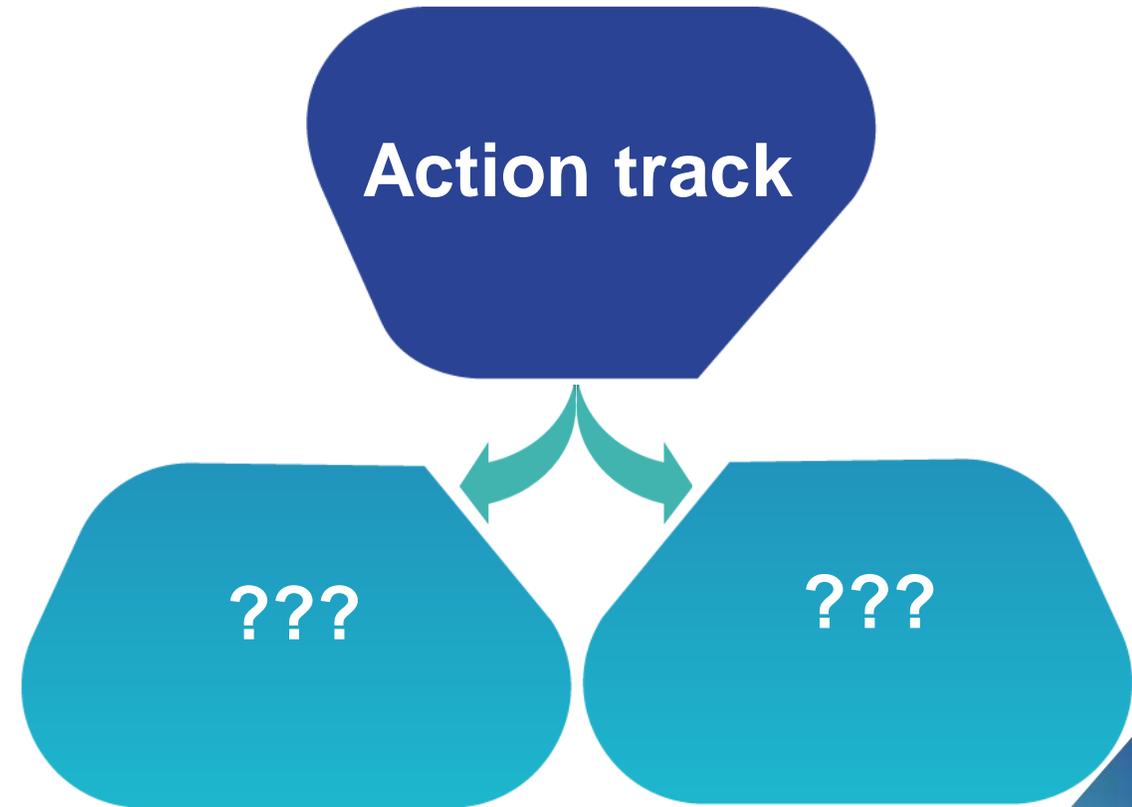
16. Action track 8: following propositions made today….

New proposition….

Ex: if available.

Action track

???   **???**

1. **Would you agree?**
2. **Can it help for developing collaborations?**
3. **What would be the incentive?**
4. **Would you rank these proposals differently?**

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5. Conclusion and next steps

Toward a final list of action tracks

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17. Next steps

Actions tracks: finalise the list, description, collect examples / good practices, propose possible implementation.

Final report: use the action track for the final report. Set of possible actions for CE regions, CE MS, European Commission

European Commission meeting: to present the report, its action tracks and insure follow up and ownership

Industry collaboration in CE: this is only the beginning not the end.

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Innovation Investment, Faster.

N-ABLE aims to accelerate the development and deployment of new technologies and solutions.

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