



DT-ICT-02-2018 Robotics - Digital Innovation Hubs (DIH)
H2020 Innovation Action (IA)

TRINITY: Digital Technologies, Advanced Robotics and increased Cyber-security for Agile Production in Future European Manufacturing Ecosystems

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<http://www.trinityrobotics.eu/>
@eu_trinity

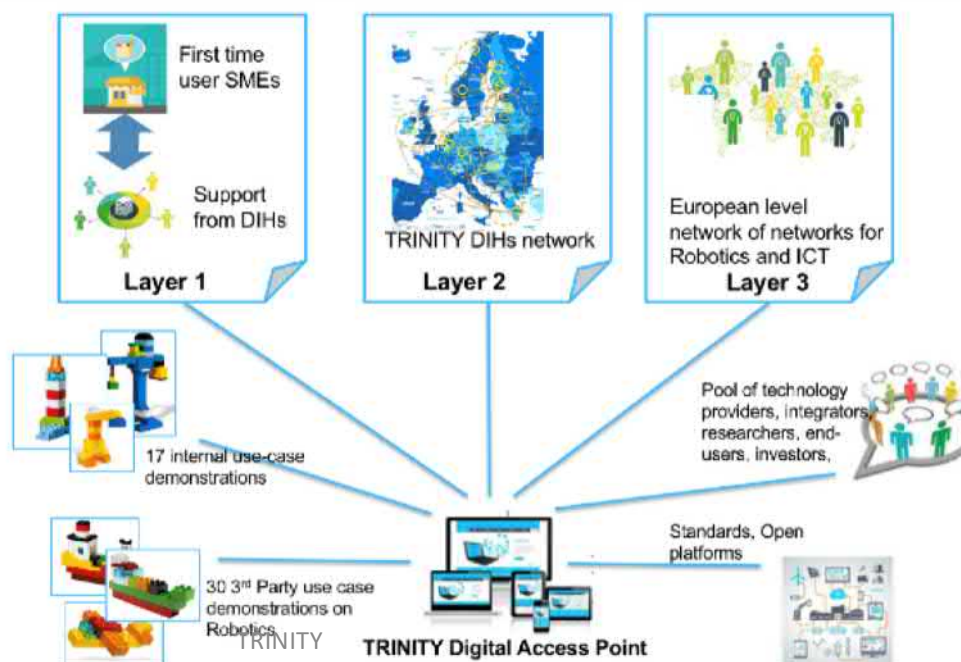
TRINITY

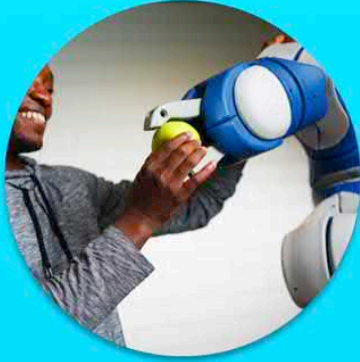
TRINITY



List of participants:

Participant no.	Participant Organisation Name	Participant short name	Country
1 (CO)	Tampere University of Technology	TUT	Finland
2	Centria University of Applied Sciences	CENT	Finland
3	UiT – The Arctic University of Norway	UiT	Norway
4	Jozef Stefan Institute	JSI	Slovenia
5	LMS University of Patras	LMS	Greece
6	Budapest University of Technology and Economics	BME	Hungary
7	Fraunhofer Gesellschaft	FhG	Germany
8	Flanders MAKE	Flanders MAKE	Belgium
9	Elektronikas un datorzinatnu instituts	EDI	Latvia
10	Leuven Security Excellence consortium I.-SEC.vzw	ISEC	Belgium
11	Fastems	FASTEMS	Finland
12	LP Montagetechnik	LP	Germany
13	F6S	F6S	Ireland
14	UAB CIVITA	CIVITA	Lithuania
15	European Association of the Machine Tool Industries	CECIMO	Belgium
16	DIGITALNORWAY Toppindustrisenteret AS	DNT	Norway





Robotics, Interaction/Collaboration and system reconfiguration

- Flexible teaching
- Vision/Perception based safety systems instead of fences
- Audio-visual guidance and situation awareness for human-robot teams
- Standards such as Industrial ROS
- Machine Learning, Deep learning



Digital tools and platforms, IIoT

- Right data at right time
- Wireless technologies
- Advanced simulation and scenario creation for demand
- Extendability mechanisms (tools should be themselves reconfigurable)
- Architectures, computational power
- Standards
- Functional Digital Twins
- Calibration and synchronization with the real world



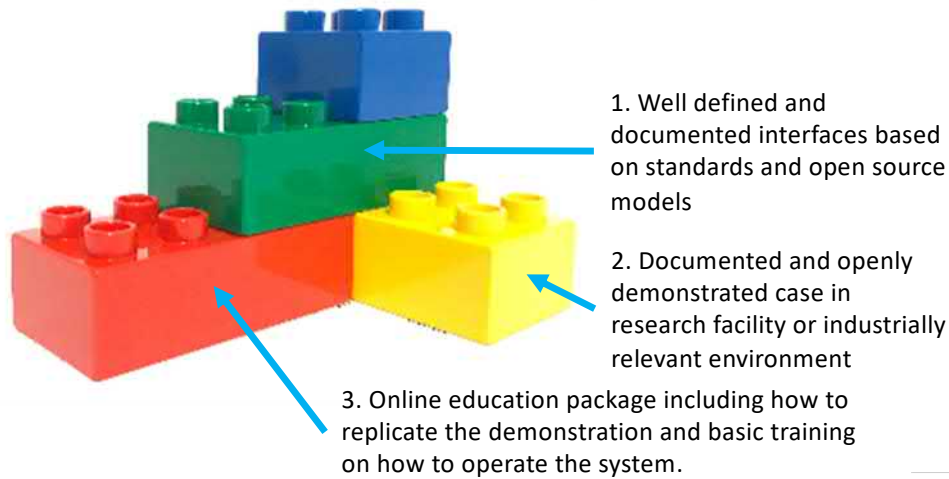
Data, System and Cyber Security

- Trust to data (validity)
- Supplier visibility and information transparency
- Trust to network
- Data sharing among networks
- Data privacy
- System error recovery

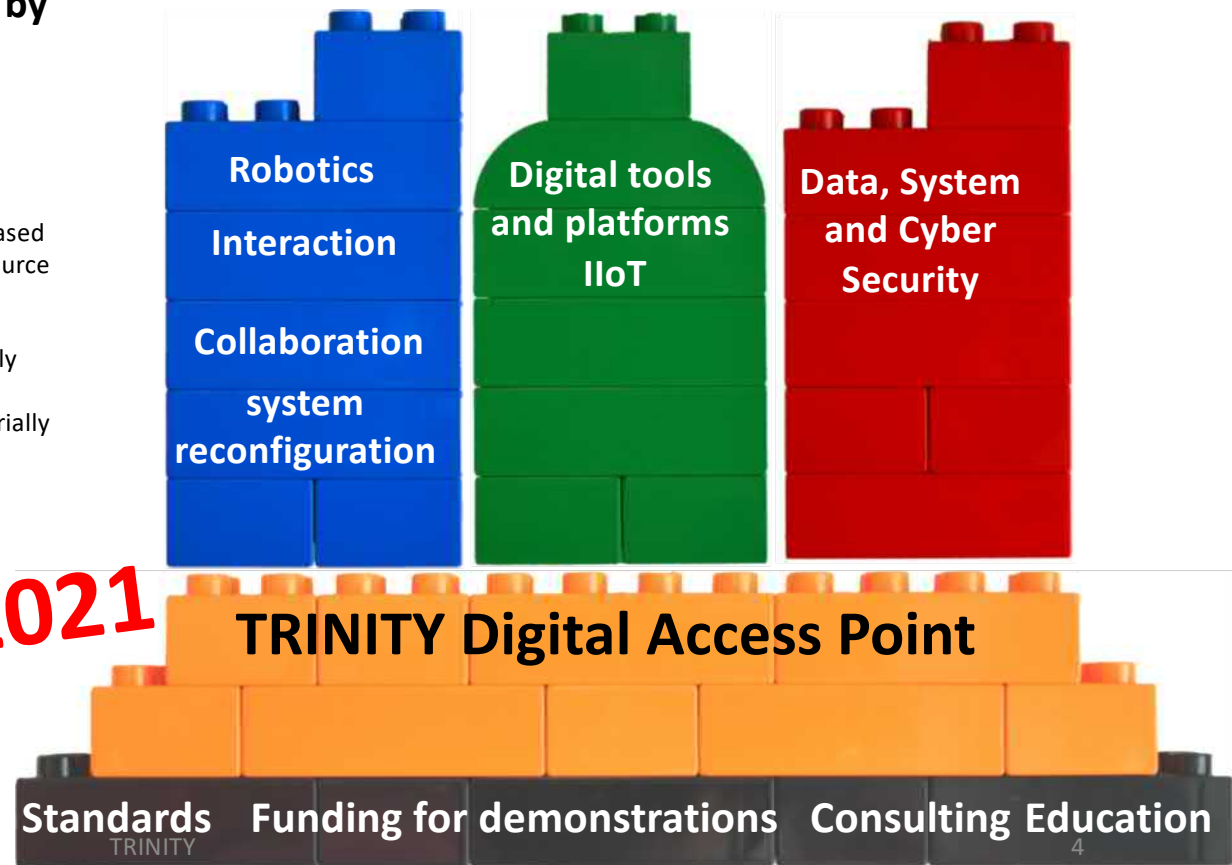
TRINITY Approach

TRINITY Main components: Lead with example – learn by doing

Target: over 47 modular use case solution blocks by the end of 2022



2 Open calls in 2020-2021



Some responses to the Aims of the session

- Mapping of DIHs on AI and their specificities (technologies, application areas, level of maturity...)
- Learning from the most mature DIHs in AI: specificities of AI, success stories, recipes to make it successful, etc.
- Identifying the needs and mechanisms for cooperation within and between DIHs
- Mechanisms to cooperate with the AI-on-demand Platform
- Identifying the gaps (geographical coverage, technological, ...) and means to address them

N.V. Bugaev (1837-1903)

Matematician

Teacher for Egorov, Kolmogorov, Luzin...

“Since no one knows what is an ‘intelligence’, we cannot speak about intelligence in animals, therefore I declare this meeting closed.”

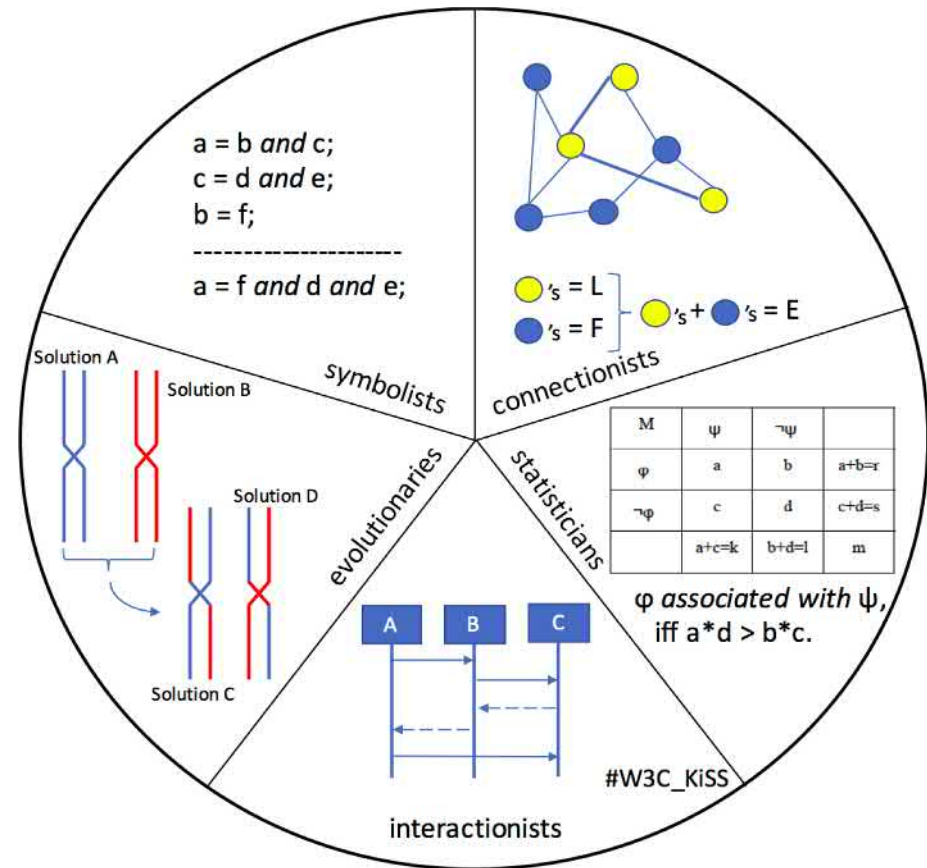
The questions of modelling the artificial intelligence are difficult due to absence of ‘clear’ definition of a term ‘intelligence’.

image source:

https://en.wikipedia.org/wiki/Nikolai_Bugaev

One of possible references to Classify AI specificities and gaps?: 5 schools of thought

- Symbolists
- Connectionists
- Evolutionaries
- Statisticians
- Interactionists
- **AI-on-demand/-as-a-service:**
 - How we **express** the demand?
 - How to **prepare data** for AI?



Cooperation with AI DIHs

- Envisioned approaches
 - Exploring the Agile Production use cases via available services and algorithms. *Agility by Intelligence*.
 - Identifying existing gaps/needs. Refereeing to the training materials available/to be prepared.
 - Identifying and interacting with relevant stakeholders at the AI DIHs side.

Mechanisms to foster DIH cross-cooperation on AI



- Envisioned approach

- Established communication channels to regularly update on latest developments focusing on:
 - Agreement on data preparation / representation.
 - Promotion of (data/AI) value chains creation to ensure sustainability.
 - Affordable, easy-to-add, non-disruptive solutions.

Thank you!



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