ECHORD++

The European Coordination Hub for Open Robotics Development

3rd Review Meeting – WP4

Jul 2015 – Nov 2016

Christophe Leroux, CEA

RIF@Paris-Saclay

Luxembourg – 2017-02-13

Bristol Robotics Laboratory

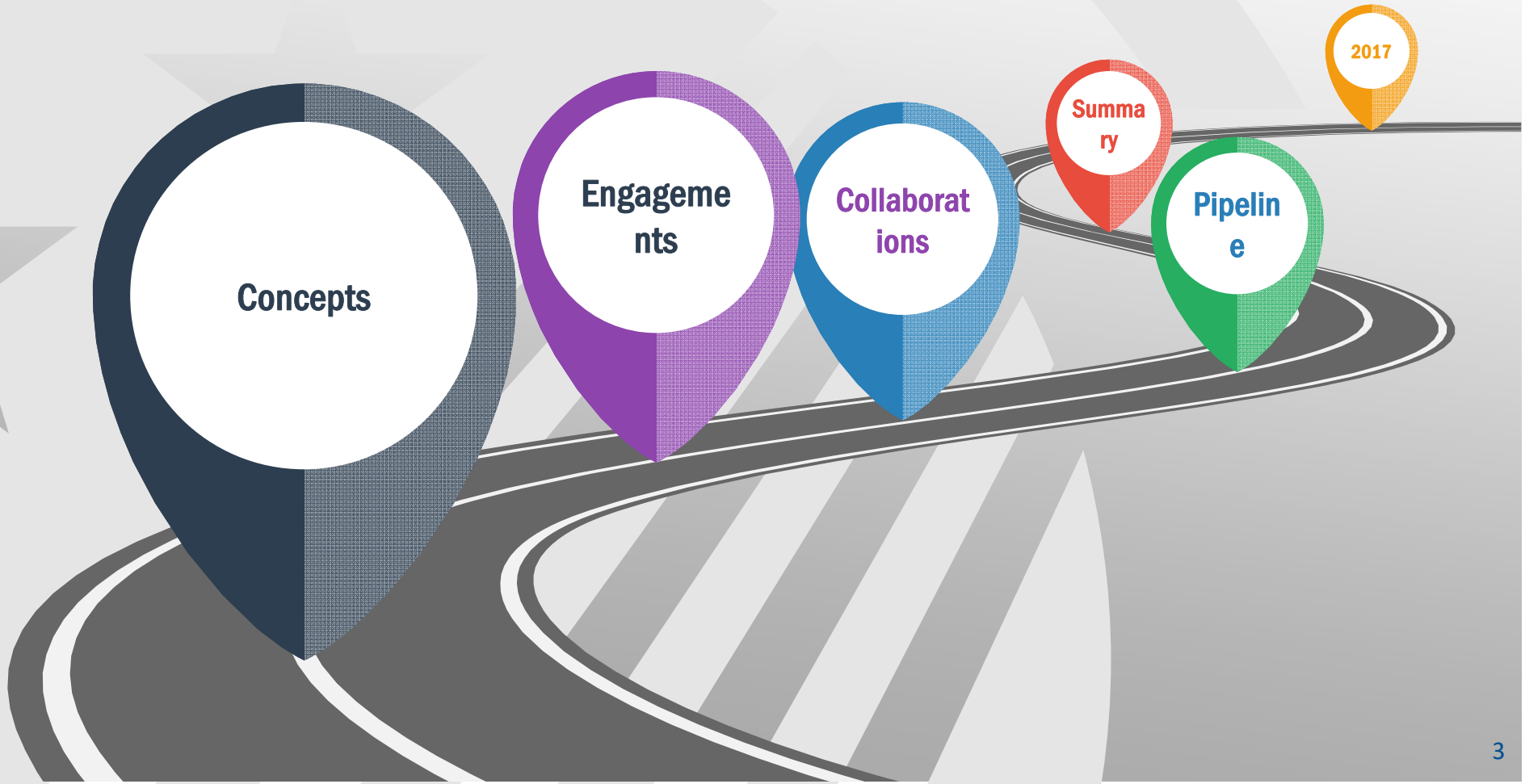
BLUE OCEAN ROBOTICS – for humans

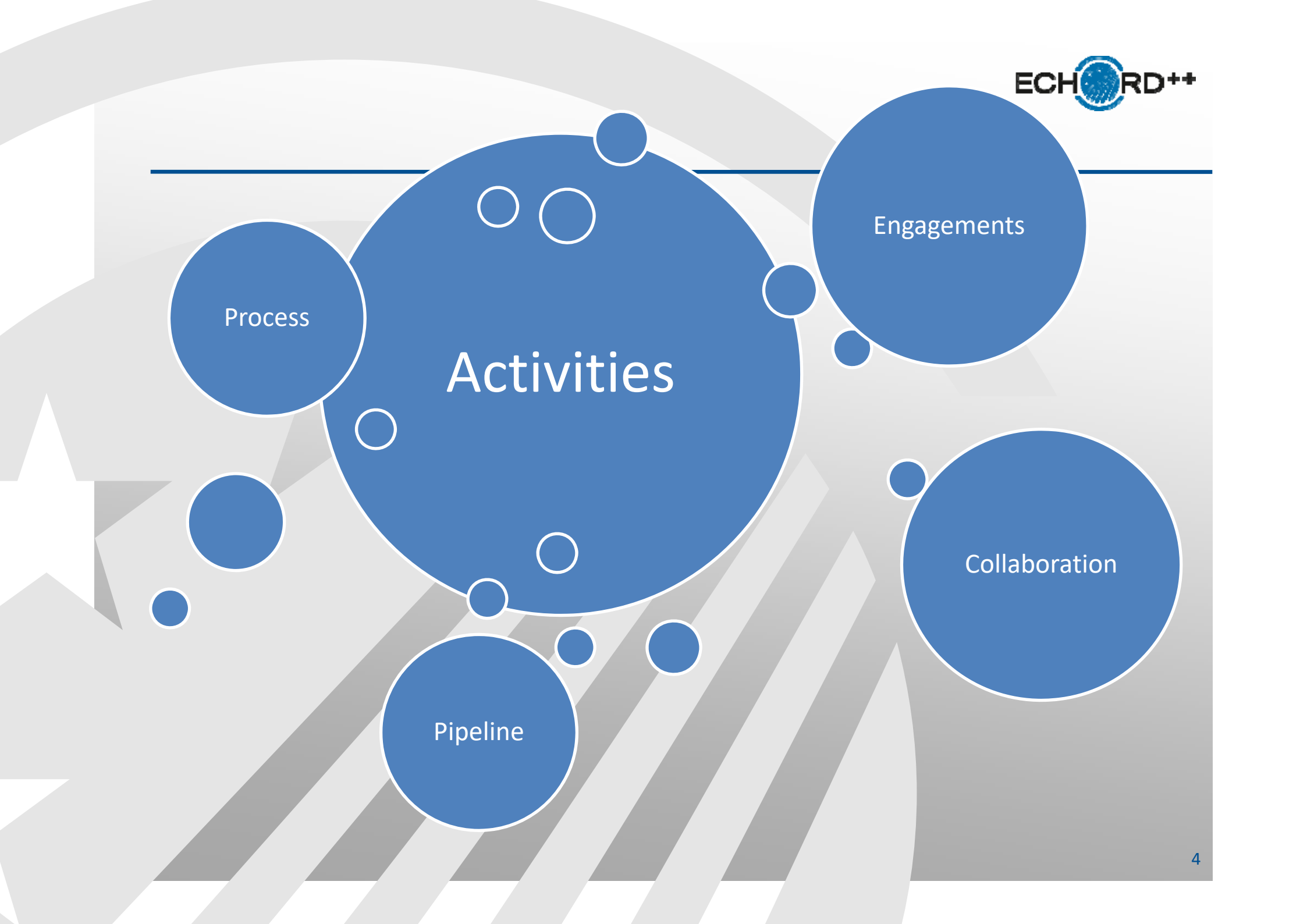
RUROBOTS Cognitive Science at Work

SEVENTH FRAMEWORK PROGRAMME

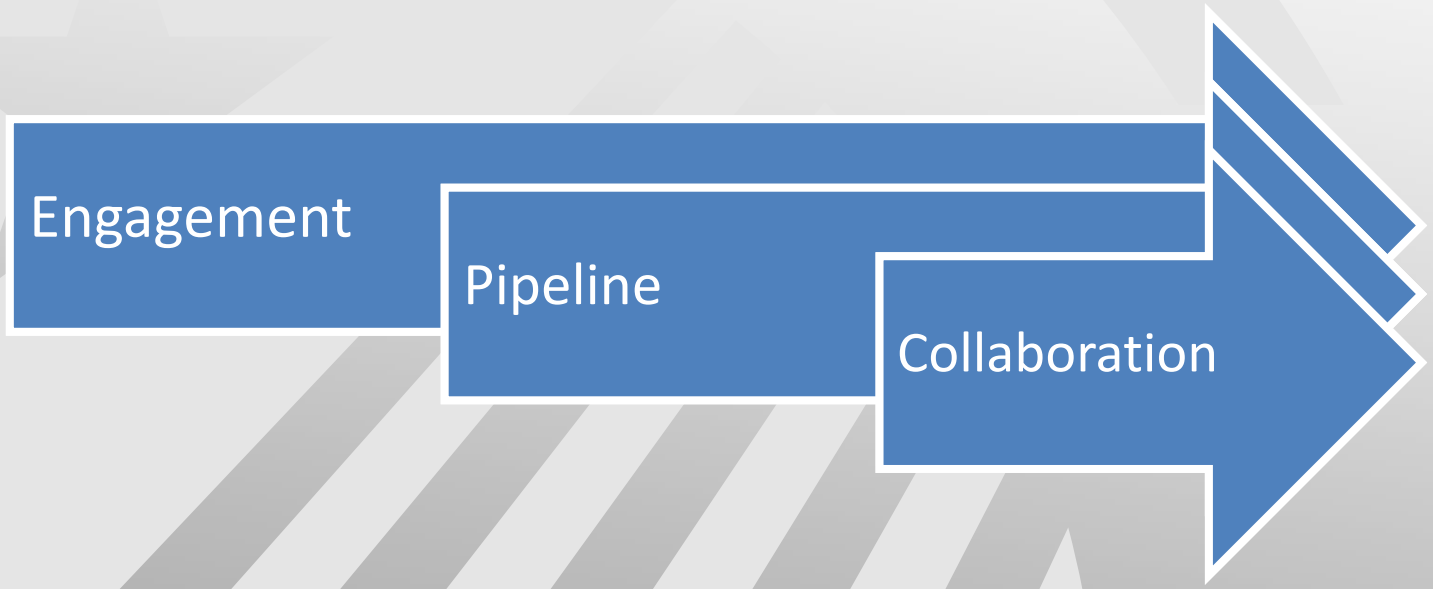
Inside RIF@Paris-Saclay in 2016

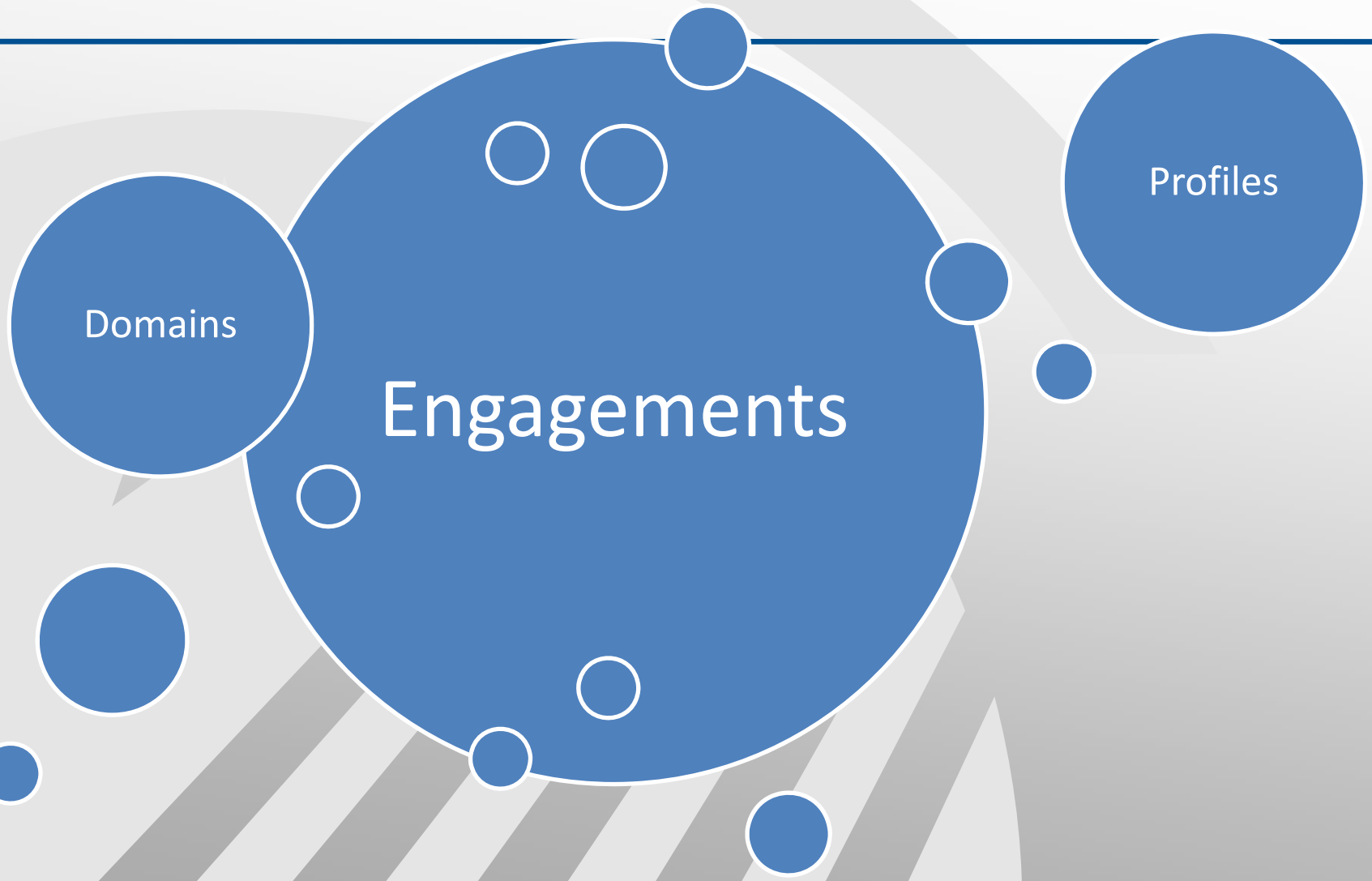
Plan of the presentation




Activities
Process
Engagements
Collaboration
Pipeline

Global phasing




Domains
Engagements
Profiles

Engagements

Actions

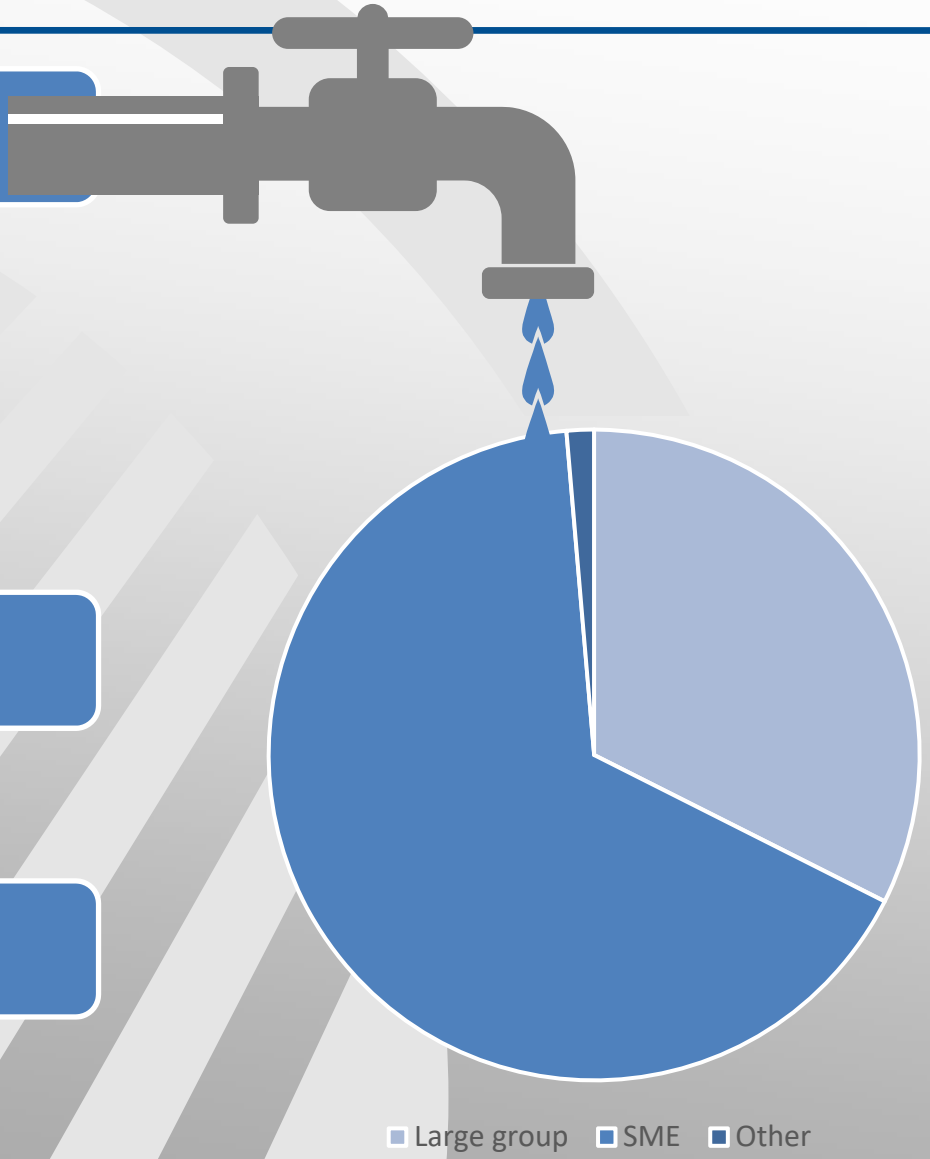
- Face to face,
- Phone
- Fairs
- Infodays,
- techdays

Above 240 contacts

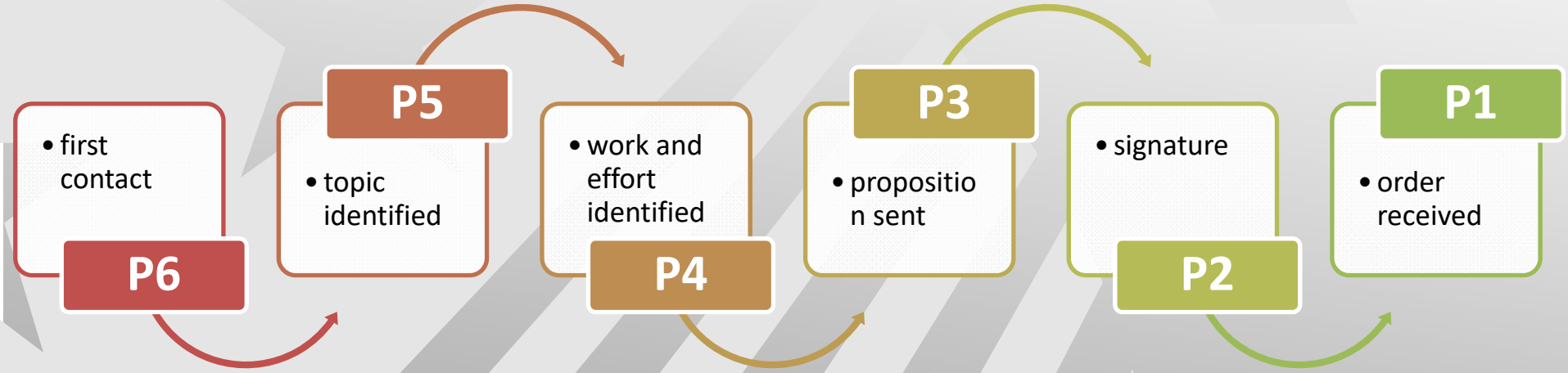
- 2/3 SME
- 1/3 large group

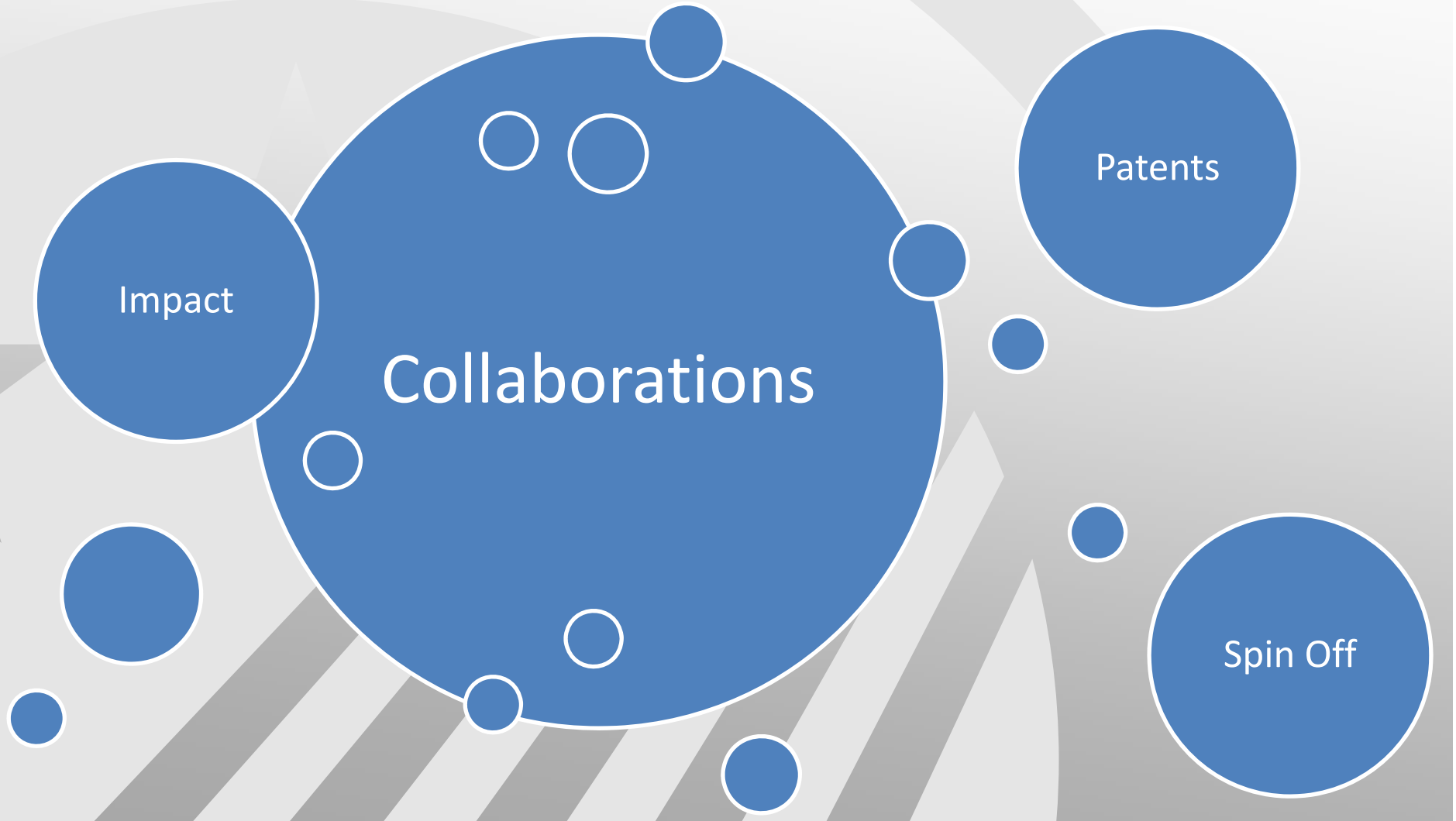
Panel

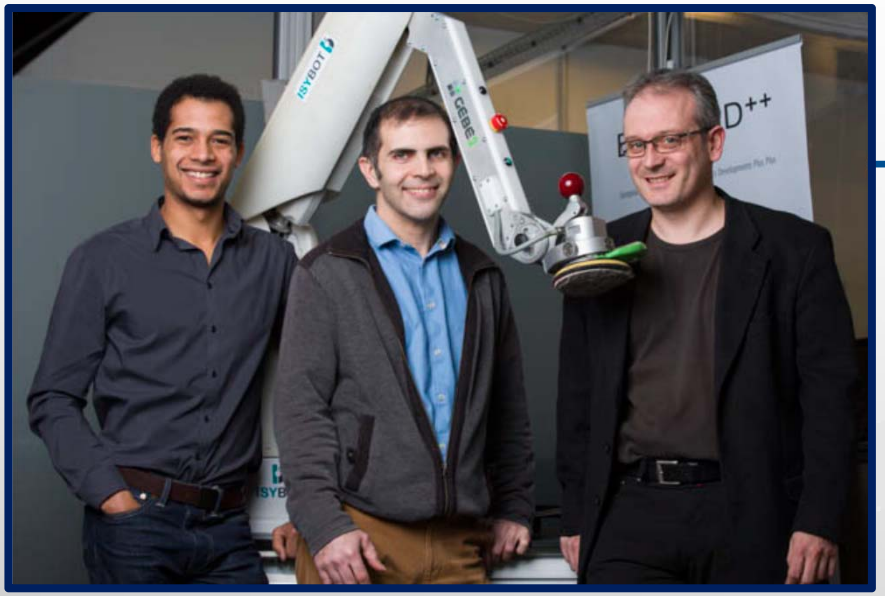
- All over France
- 1 cross border



Engagement process @RIF Paris-Saclay

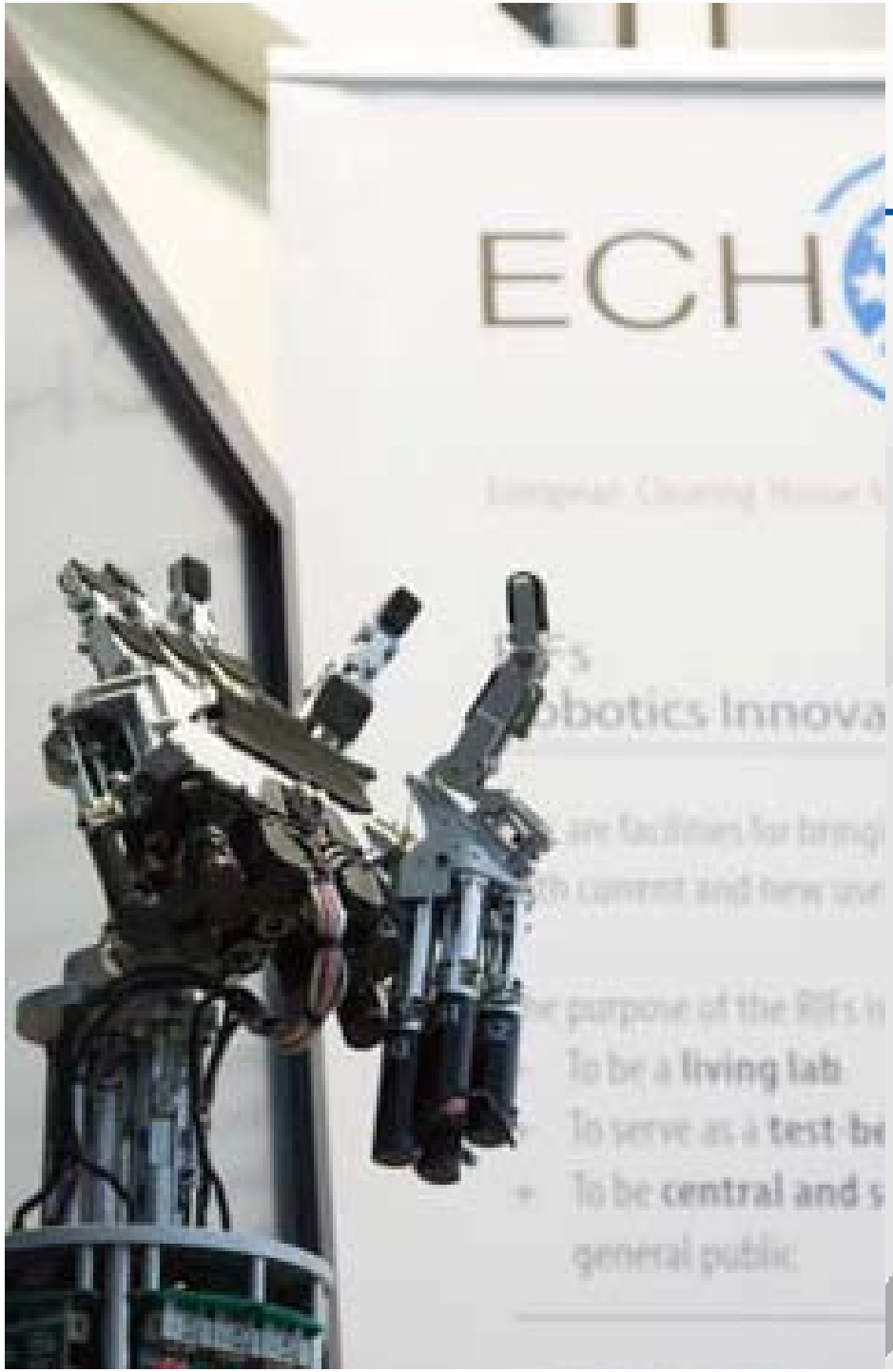



Impact
Collaborations
Patents
Spin Off



start up

- Support creation
- October 2016
- Robot arm safe for operators
- Applications: manufacturing, healthcare, nuclear, agro, game,
- Three jobs created
- Licencing five CEA patents



Licensing

- Large group
- Gripper prototype
- Tech transfer
- Based on CEA patent (2009)

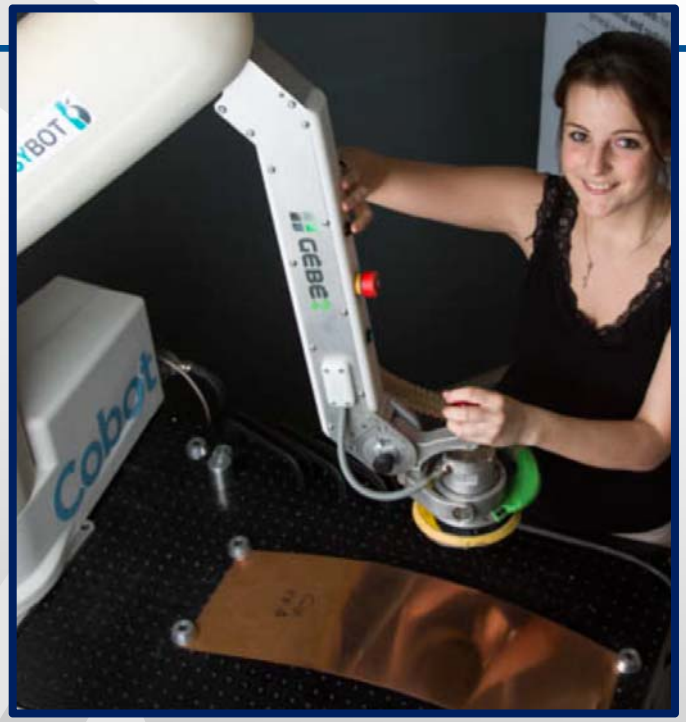
SME, GEBE2, integrator

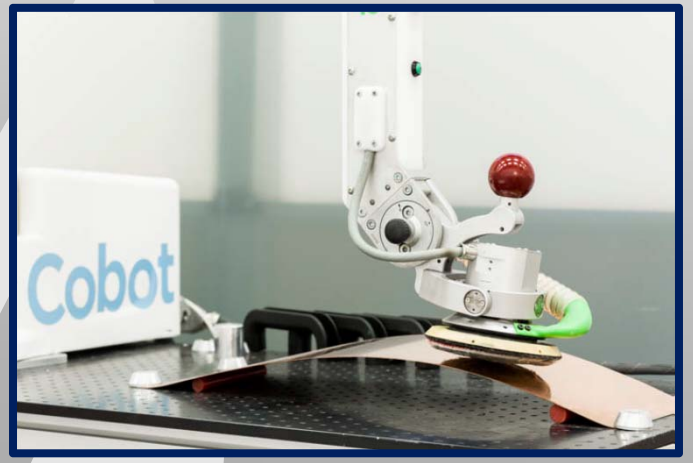
Automatic sanding to improve aspect,

Finishing of metal parts

planar and non planar surfaces

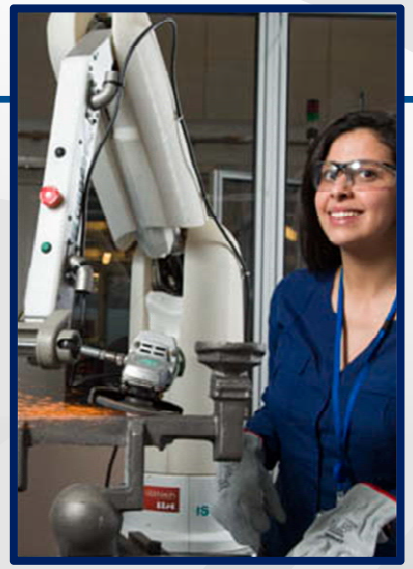
SYBOT





- Aeronautics
- Large group
- Automatic sanding
- COBOMANIP, SARAZIN
- Spain

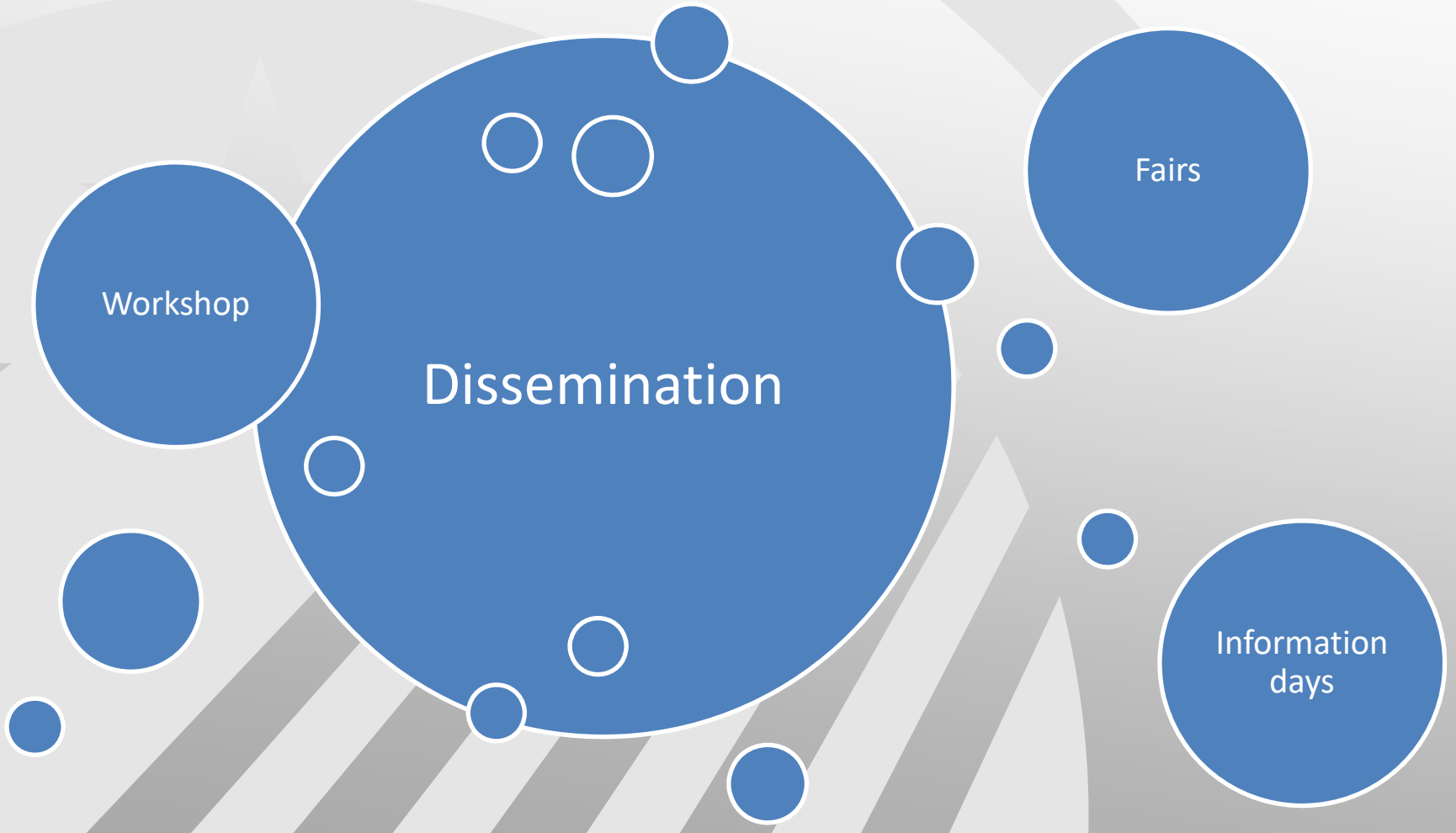
- Nuclear area
- AREVA-NC
- Teleoperation
- Spent fuel reprocessing plant maintenance
- Telemanipulation with SYBOT



- SME
- Mechanical fabrication
- Polishing of metal moulds,
- SYBOT

- Automotive
- Large group
- Automatic manipulation
- Programming by demonstration

- SME, fabrication of furniture
- Paquetting task
- Programming by demonstration
- Comparison of collaborative robots in terms of safety
- UR10 and Kuka IIWA
- Publication soon


Workshop
Dissemination
Fairs
Information days

Factory Lab inaugurated in october 2016

FFLOR, inauguration in January 2017

Dissemination, outreach: Fairs, Workshops Infodays

Innorobot,

Industrie

Smart Industrie

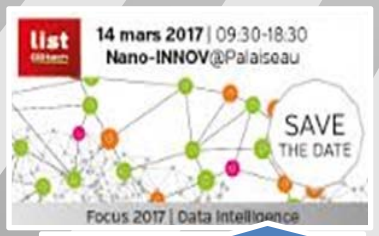
Industrial Technologies

Hannover fair

World Nuclear Exhibit

Eurobois

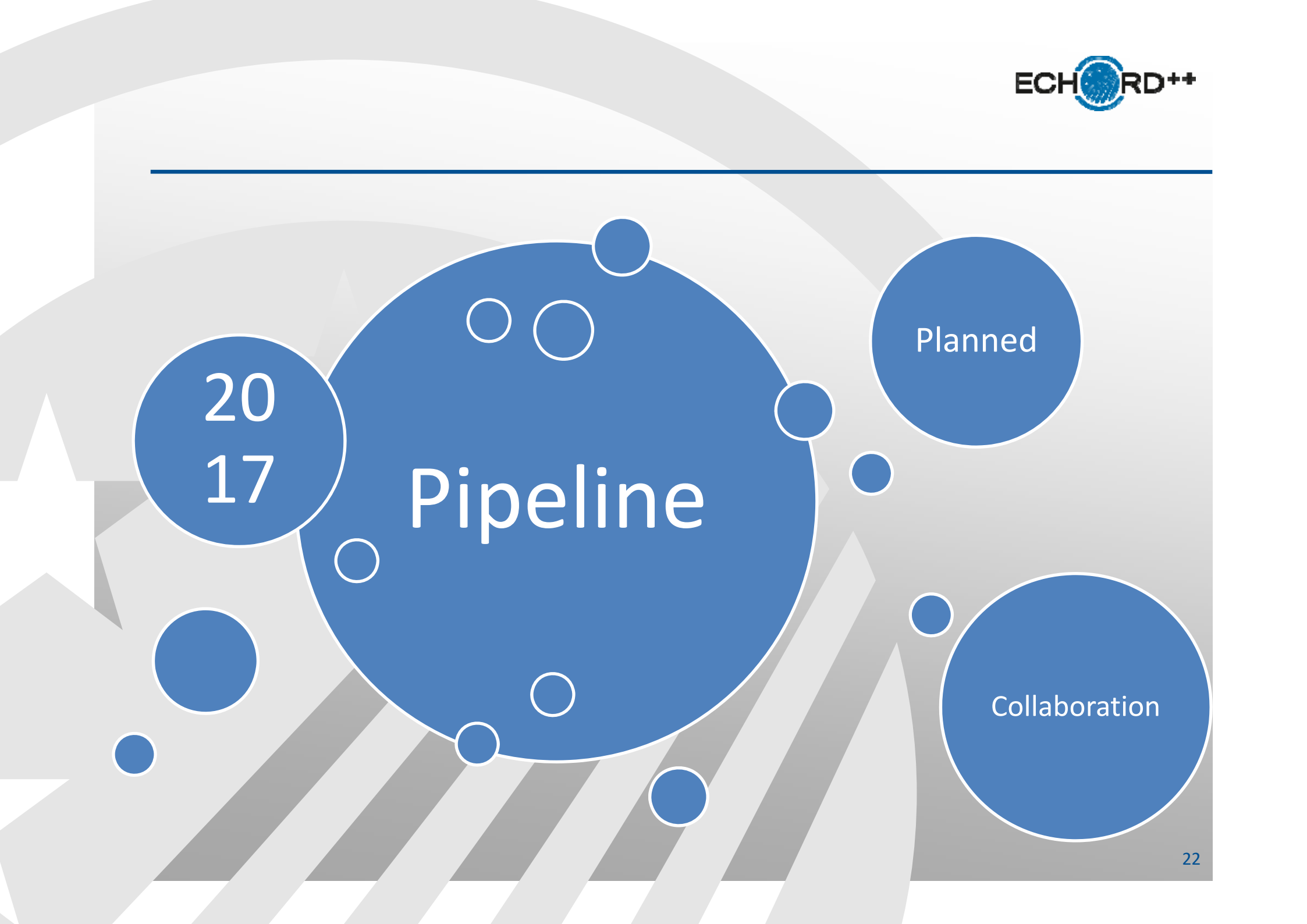
Jeudis de la mécanique (3 / year)



Two CEA Techdays (industries)

Video

- Public video available
- Video produced in February
- Omnidirectional video


20
17
Pipeline
Planned
Collaboration

Collaborative robotics

Transport

- Large group,
- Public sector

Assistance to brushing

- SYBOT
- on site
- TRL 7

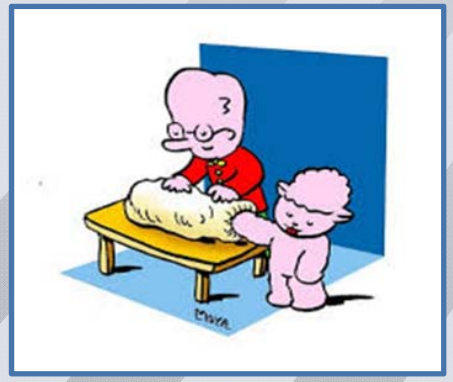
Foundation « *La main à la pâte* »

Primary & middle schools

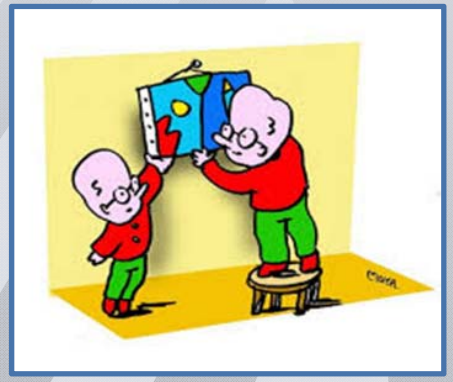
International S&T teaching

FONDATION
La main à la pâte
POUR L'ÉDUCATION À LA SCIENCE

Assistance for teachers



Inquiry-based learning



Stimulate scientific spirit

Workshop
Results summary
Fairs
Information days

Summary

Success stories, socioeconomic impact

- Six collaborations
- Support creation of iSYBOT
- Productivity, quality, production, MSD

Effort

- Intense commercial & technical
- Engagements: several months
- Need to build trust
- Collaborations: six to eight weeks effort
- TRL 5 to 7
- Opportunistic choices
- Publication, fairs, info / techdays, workshops

Next steps

Strenghtening ecosystem

- IdF region,
- SMEs: CETIM, SYMOP,
- ASTEC, CAP Digital, etc.

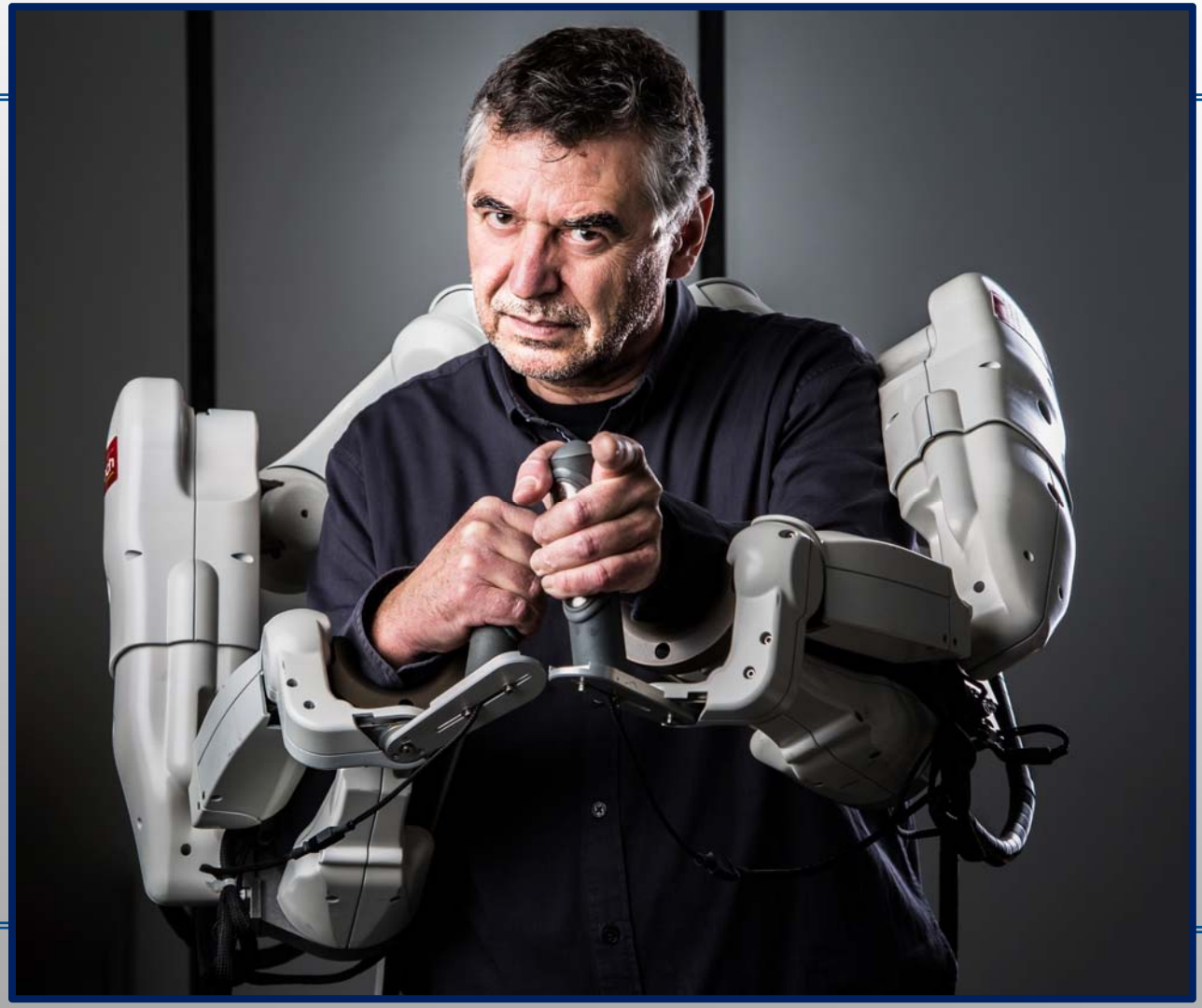
France

- Regional platforms: Factory Lab, FFLOR
- CEA Tech PRTT

Europe: Involvment in DEI

- I4MS Competence Centre in robotics for manufacturing
- Networking with I4MS robotics CC
- Aligned with DIH policy & S3 priorities

Your turn?



Thank you for your attention

RIF Paris-Saclay surrounding at night

Looking forward to welcoming you

CEA key people in Echord++

Christophe Leroux

Project manager

Yann Perrot

Head Robotics Lab

Pascale Betinelli

Industrial businesses

Gregorio Ameyugo

CEA Tech Europe