4TH INTERNATIONAL CLUSTER CONFERENCE
S3-4AlpClusters Final Conference

Action Development
Development of Transformative Activities in Franche-Comté
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Development of Transformative Activities (TA) in Franche-Comté

- Regional framework
- A triple helix innovation environment
- S3-driven TA (examples)
- Conclusion
Regional Framework

➔ dec. 2015

Franche-Comté
Conseil régional


REGION BOURGOGNE FRANCHE COMTE

Interreg Alpine Space
S3-4AlpClusters

Smart Specialisation with Smart Clusters
Regional Framework

A modest, but highly talented Region

- Population: 1.2M
- GDP/capita: 25k€
- Pop. density twice smaller (/F)
- 1st industrial Region (F), with 34% of employees in the industrial sector (among which 60% in SMEs)
- 2nd best export trade surplus (F)
- ERDF: 151M€, among which 27M€ for S3
Regional Framework

A historical industrial Region in France
- Birthplace of the Peugeot car company (Sochaux)
- ALSTOM (TGV), General Electric
- Strong know-how in fine-mechanics (clock industry)

Critical economical framework
- Breakdown of the clock industry (still sub-contracting)
- Difficulties to grow new activities
- Difficult location (between strong economical spaces, Paris, Strasbourg, Lyon, Grenoble)

⇒ Strong need for Transformative Activities
S3 in FC, and the triple helix

*Life cycle of innovative projects*

$\text{Business}$

$\text{Government}$

$\text{University}$

*Triple Helix*

Smart Specialisation with Smart Clusters
S3 in FC, and the triple helix

- The Regional government organized the S3 Call in 2013, with most of the local economic development agencies and clusters

- Strong interest of the FEMTO-ST institute (academic research in Engineering Sciences)

- Opportunities for many spin-offs created from the research activities of FEMTO-ST (natural strong push toward innovation for these SMEs)

- S3 Call naturally open for other SMEs (however less familiar with such call for proposals)
FEMTO-ST & societal involvement

- Academic research institute in Engineering Sciences, one of the largest in France, A+ national ranking
- 750 members (260 permanent researchers, 230 PhD students)
- Strong cross-disciplinary research (7 scientific Depts, + Human Sciences), from molecular surface arrangements, through micro-atomic clocks, to fuel cell systems for vehicles
- A voluntary dedication to innovation and transfer (1 spin-off/year; several innovation awards)
- 9 technology platforms (among which a national micro-nano fabrication center)
S3 priority areas in FC

- Communicating vehicles, autonomous driving, and mobility services
- Energy saving vehicles
- Micro technology for the luxury market
- Micro-nano-systems
- Sustainable local food
- Integration and efficiency of energy systems
- Information and communication technologies in response to societal challenges
- … to evolve according to any appearing or disappearing opportunity
S3-driven TA in FC

List of started S3 projects in FC since 2015

- µD2 (µ-machining for the luxury clock industry, 2015)
- Smart-Inn (integrated RF filters on exotic materials, 2015)
- 3S-MEMS (hybrid-, power free-, MEMS sensors, 2015)
- MiMédi (Innovative therapy through µ-technologies, 2017)
- NextWatch (MEMS-based clock engine, 2018)
- Vhyctor (hydrogen tank in lightweight composites, 2018)
μD2

Smart Specialisation with Smart Clusters
RF Telecommunication systems

Goal: setting-up of a regional value chain in RF filter design, fabrication, packaging, with unconventional materials (exotic crystals, not traditional Silicon)
Smart-Inn

SMART-INN

CHAI NE DE VALEUR

Caractérisation sous environnement
Conception Système
Caractérisation

Conception
SAW

Optimisation

Interreg
Alpine Space
S3-4AlpClusters

Smart Specialisation with Smart Clusters
3S-MEMS
3S-MEMS

- Patented power-free sensor technology for structural health monitoring
- Fab-less company model
Ex-post Synergy diamonds in FC
Medicinal drug based on innovative therapy (Lymphocytes, genetic or natural types, automated identification & selection, culture, back-injection into the patient…)

Target: Inflammatory diseases and cancer

All-in-One: Industry, hospital, clinical tests & research, cell research, robotic and micro-fluidic research

Remark: Project involving Quadruple helix (patients)
Conclusions

- A triple / quadruple helix approach, with a voluntary academic stakeholder and a highly confident connection with local government & involved SMEs

- Fertile ground for S3 projects through a µ-cluster role of FEMTO-ST, with its industrial partners and spin-offs

- Six S3 projects triggered in partnership with our research institute
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