General information

Organisation name: **CEAtech – Data Intelligence Department**
Contact name: **Nizar TOULEIMAT**
Email: **nizar.touleimat@cea.fr**
Telephone number: **+33 (0) 678 977 886**

Targeted topics

LC-SC3-B4E-10-2020: Self-assessment and self-optimisation of buildings and appliances for a better energy performance

LC-SC3-B4E-14-2020: Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side

LC-SC3-B4E-5-2020: Integrated design concepts for energy-efficient ICT in buildings

LC-SC3-B4E-6-2020: Big data for buildings

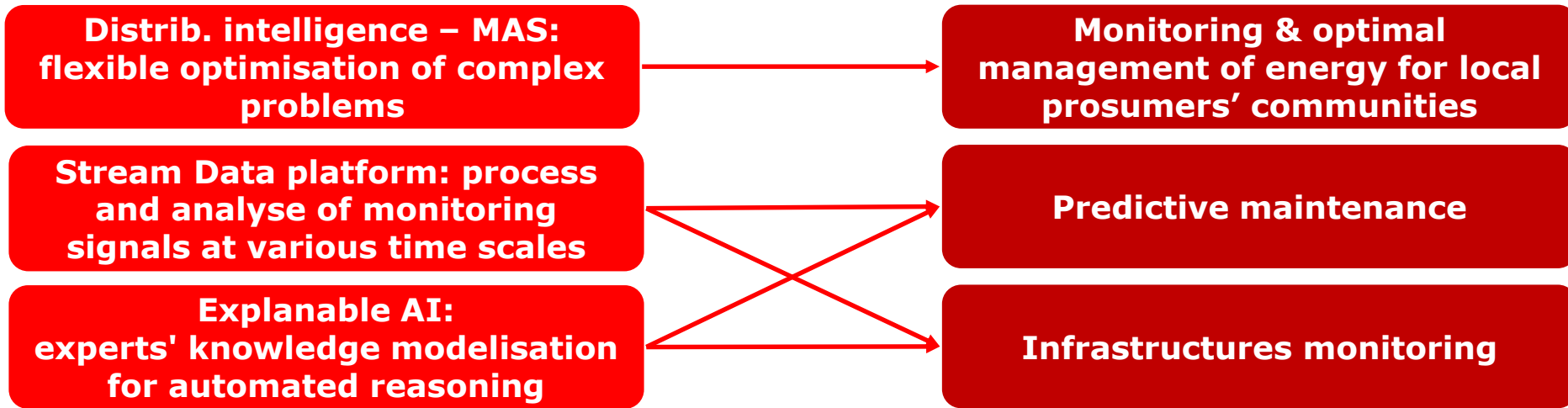*LC-SC3-EC-3-2020: Consumer engagement and demand response*

LC-SC3-ES-3-2018-2020: Integrated local energy systems (Energy islands)

LC-SC3-ES-5-2018-2020: TSO – DSO – Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale (RES) generation

LC-SC3-ES-10-2020: DC – AC/DC hybrid grid for a modular, resilient and high RES share grid development

LC-SC3-SCC-1-2018-2019-2020 : Smart Cities and Communities

LC-SC3-SCC-2-2020: Smart Airports

Competencies

Distrib. intelligence – MAS: flexible optimisation of complex problems	**Monitoring & optimal management of energy for local prosumers' communities**
Stream Data platform: process and analyse of monitoring signals at various time scales	**Predictive maintenance**
Explanable AI: experts' knowledge modelisation for automated reasoning	**Infrastructures monitoring**

TABEDE, Mas2tering & DRIvE: monitoring and optimal management of local communities of prosumers

PENTAGON: unlocking EU grid local flexibility trough augmented energy conversion capabilities at district-level

THERMOSS: integration of advanced technologies for heating and cooling at building and district level.

SW4EU: Smart Water Network for sustainable water supply, QC, energy optimization and improved customers' interaction

EURITRACK & C-BORD: solution for the generalized non-intrusive inspection of large-volume freight to protect EU borders.

Project idea: collaborative learning for smart energy systems

FEDERATIVE LEARNING

PRIVACY SECURE DATA ADVERSARIAL

CLOUD

AT **E**DGE

Models merging

Generic info upload

Generic models DB

Models' spécialisation

COLLABORATION

STREAM DATA ANALYSIS

Collaboration Cooperation

Model transfer

- **Model learning**
- **Models' update**
- **Integration of users' feedback**
- **Drift detection**
- **Embedded solution**