SBA AT A GLANCE

ALL CITIZENS

ALL BUILDINGS

ALL VEHICLES

ALL TERRITORY, EQUIPMENT & INFRASTRUCTURE

CONTRIBUTING TO URBAN ENVIRONMENTAL TRANSITION
BY ACCELERATING IMPACT OF DIGITAL TRANSITION IN BUILDINGS & CITIES

Environmental Transition

X

Digital Transition

"The development of new digitally enhanced services in buildings and cities will become possible when traditional silo approaches are overcome"

THINK TANK

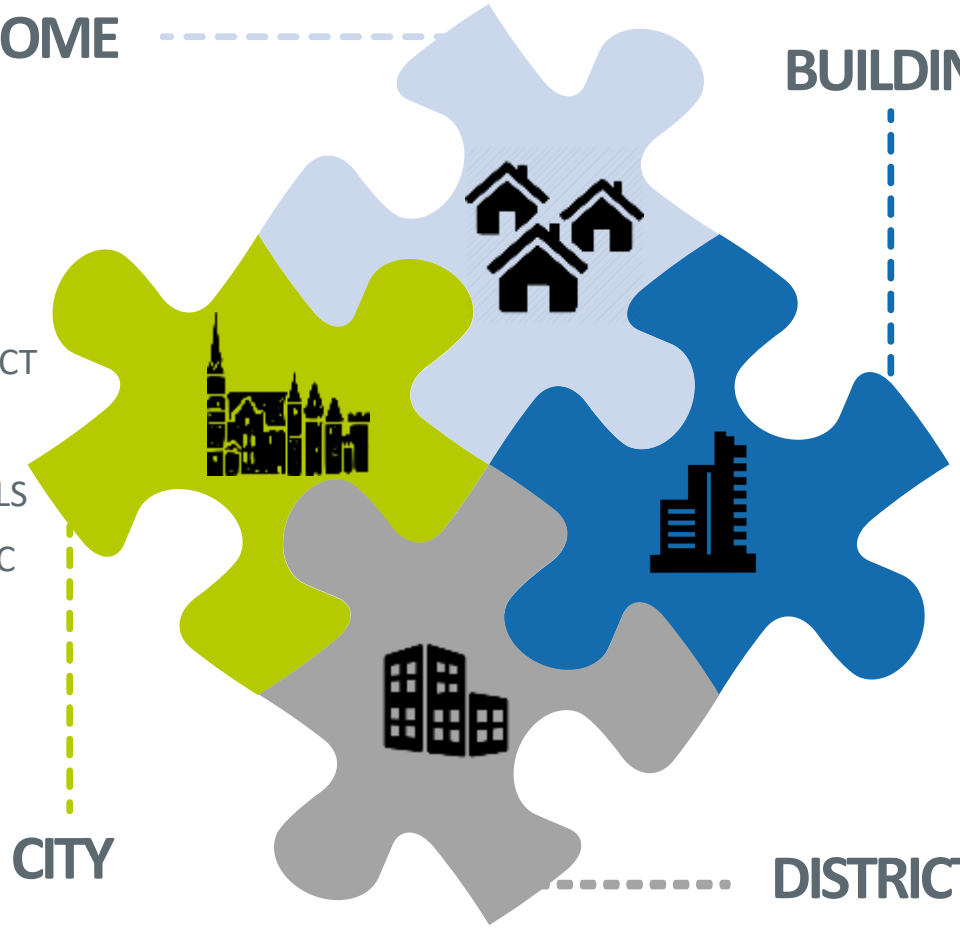
Work Too By SBA

DO TANK

Invent tomorrow — **THINK** / **DO** — *Impact today*

- **Imagine** & **design** the way forward for Sustainable Urban Development, by meeting the challenges of :
  - Digital transformation
  - Energy transition
  - Sustainable business models
  - Service orientated, user centric approach for smart buildings & smart cities
- **Support stakeholders** involved in these transitions
- **Foster the development of new ecosystems** leveraging innovation and new services in the context of sustainable development business models.
- **Help to establish a Smart building & Smart City sector of excellence** capable of disseminating all around the world

FROM HOMES TO CITIES & TERRITORIES



- Digital Enablement
- Environmental Impact
- « X » as a Service
- New Business Models
- Citizen/User Centric

HOME

Foster the development of open standards, easy to use, affordable smart technologies & services for the smart home.

BUILDINGS

Promote digital connectivity as a prerequisite for smart buildings to become versatile service platforms.

DISTRICTS

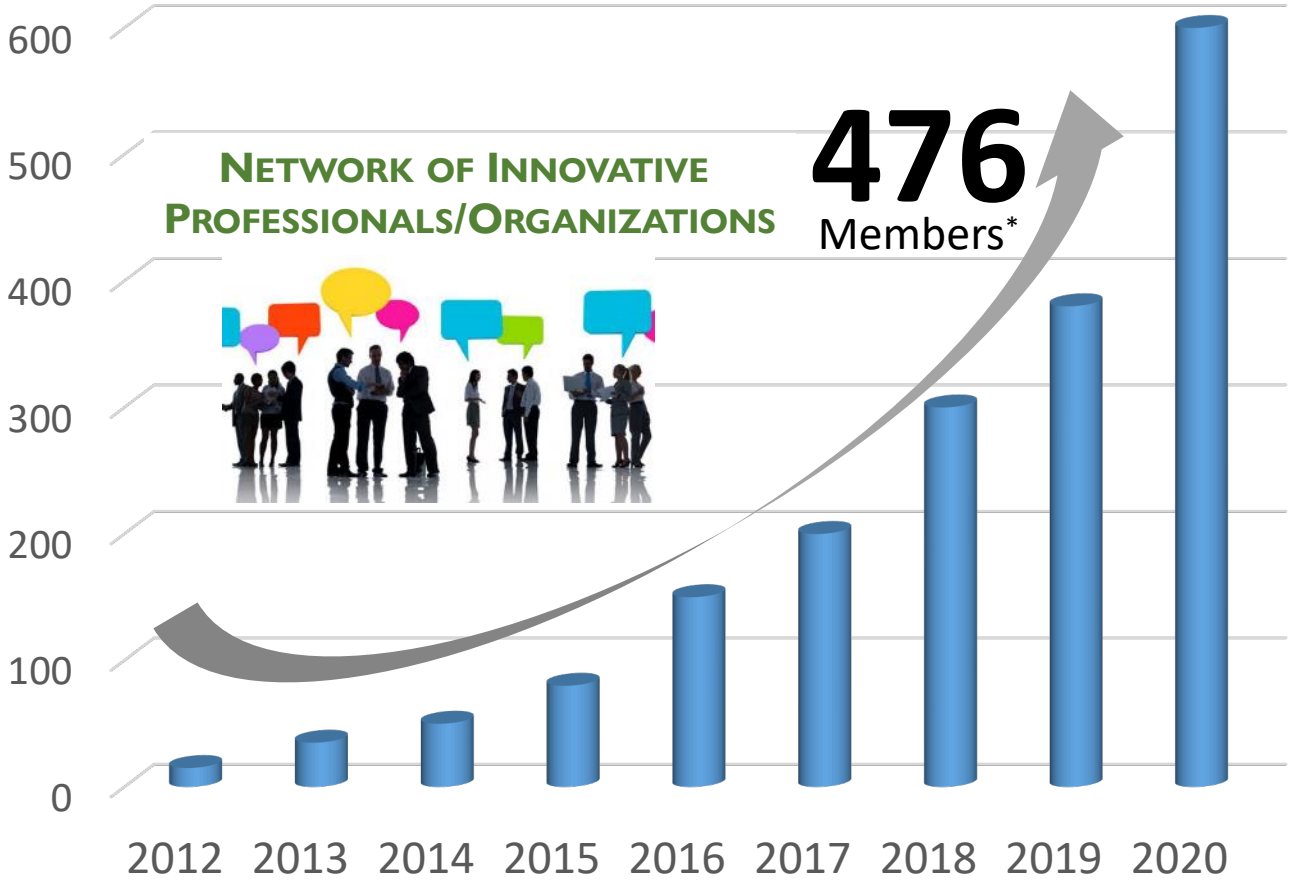
Engage smart district planners to take advantage of interactivity with smart buildings.

CITY (& Territories)

Anchor smart building as one of the corner stone of smart city projects.

WHO WE ARE: Members

COLLECTIVE INTELLIGENCE, TRANSVERSALITY, DIVERSITY OF STAKEHOLDERS



- Cities & local authorities
- Developers, real estate owners, social landlords
- Architects, Engineering offices, Consultants
- Installers, integrators
- Equipment manufacturers, Solution providers
- Utilities
- Service Providers
- Telecom, networks, IT
- Financial Industry (Bank & insurance)
- Startups
- Training organizations, universities
- Industry associations
- …

** Members as of August 2020*

WHO WE ARE: SBA France Honorary Members

… + 423 OTHER ORGANIZATIONS & ENTERPRISES

WHO WE ARE: Organization

Advisory Board

President of the advisory board

M. Daumas
ENGIE Solutions

Executive Committee

President

E. François
ENOCEAN

VP Smart City

E. Etienne-Denoy
GREEN SOLUCE

VP Smart Building

S. Meunier
ABB

VP Smart Home

FX. Jeuland
NT Conseil

General Secretary

O. Gresle
ENGIE Solutions

Treasurer

V. De Lajarte
PARTAGER LA VILLE

Deputy VP-City

C. Moulin
CERTIVEA

Deputy VP-Building

B. Fiquet
ICADE

Deputy VP-Home

C. Rozier
URBAN PRACTICES

Deputy VP- G.S.

P. Metzenthin
G-ACTIV

Management Office

Executive Officer

P. de Carné

International Development

M. Claudel

Chief Program Officer

A. Kergoat

Marcom Manager

D. Briquet

Office Manager

M. Rouanet

Board of Directors

Angelo Blot, MSH LONO
Romain Courrier, NEODOMUS
François-Xavier Jeuland, NT CONSEIL
Valentine de Lajarte, PARTAGER LA VILLE
Philippe Metzenthin, G-ACTIV

Philippe Bonduelle, DECELECT
Alexandre Chaverot, AVIDSEN
Henri Lasseigne, ASCAUDIT
Jérôme Mayet, SETEC
Sylvain Riss, BG 21

Emmanuel Ballandras, LEGRAND
François Desgardin, NEXITY
Christelle Duverger, VINCI FACILITIES
Olivier Gresle, ENGIE SOLUTIONS
Isabelle Mathé, ORANGE

Christelle Aroule, SCHNEIDER ELECTRIC
Laurent Bernard, BARBANEL
Doris Birkhofer, SIEMENS
Kevin Cardona, BNP PARIBAS REAL ESTATE
David Desablence, VINCI ENERGIE

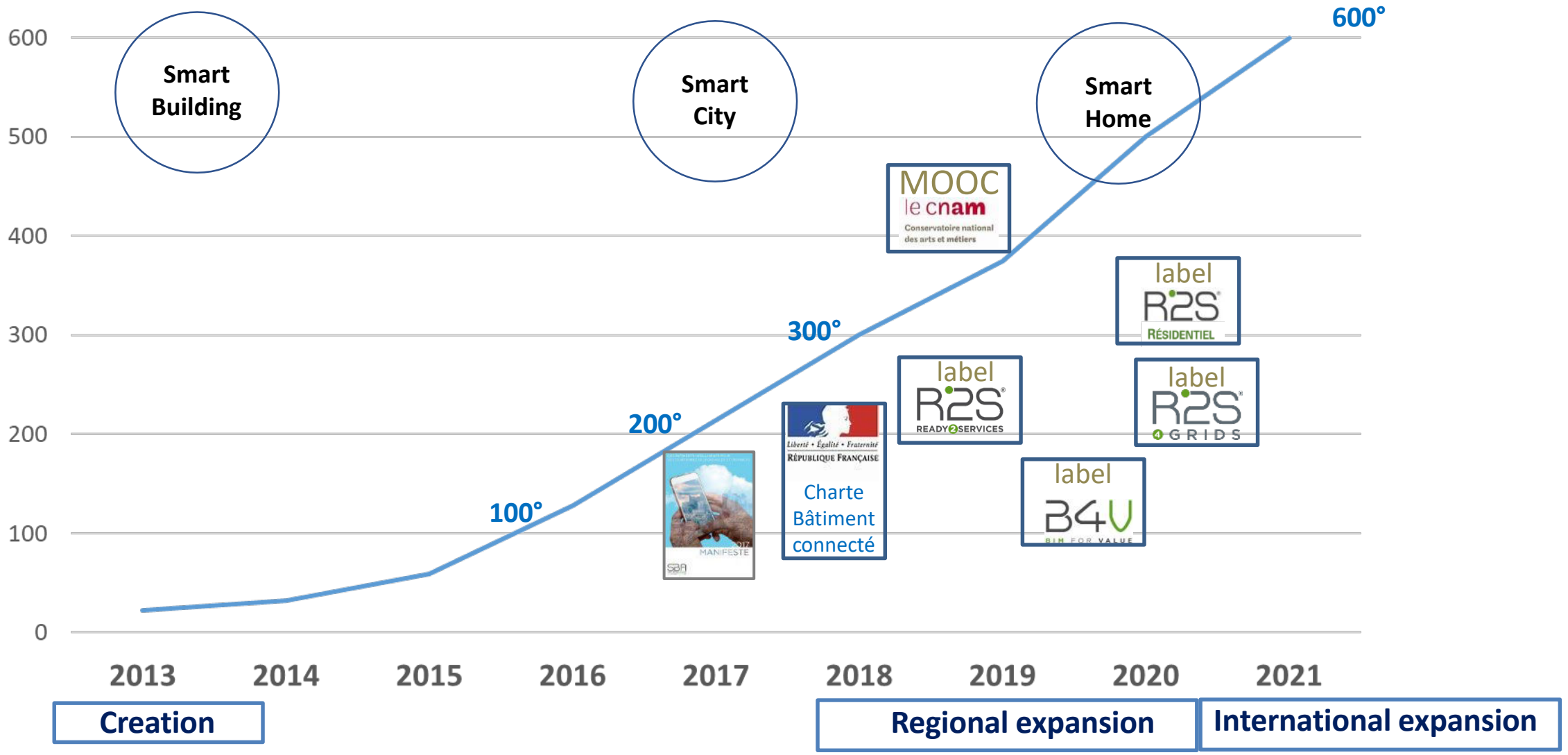
Pierre-Nicolas Clere, CONNECTING TECHNOLOGY
Ella Etienne-Denoy, GREEN SOLUCE
Frank Fischer, ADEUNIS
Godefroy Jordan, SMARTHAB
Patrick Nossent, CERTIVEA

Philippe Durand, BUREAU VERITAS
Benjamin Fiquet, ICADE
Anne-Françoise Hayman, ARTELIA
Sébastien Meunier, ABB
Stéphanie Vondiere, GA SMART BUILDING

Christophe Colinet, BORDEAUX METROPOLE
Delphine Eyraud, GIMELEC
François Loch, AFPA
Anne-Sophie Perrissin, IGNES
Stéphanie Tucoulet, ANITEC

Anne Devernois, BOUYGUES ENERGIE SERVICES
Cindy Devillers-Courseaux, EDF
Emmanuel François, ENOCEAN
Benoit Grigaut, ENGIE SOLUTIONS
Paul Raad, WIT

Key Milestones



WHAT WE DO: Events, Trade Faires & Public Relations

Organizing Thematic Conferences

Gathering Members for Network Events & Sharing Experiences

Founding Partner of SB4SC* Universities

** Smart Buildings for Smart Cities*

Promoting Innovation at major trade fairs through Village by SBA

Offering Speaking Opportunities for Innovators & Thought Leaders

Sharing new ideas & vision

In the scope of Smart Buildings for Smart Cities

WHAT WE DO: SBA Publications & Thema Guides

Smart Territories

Smart Social Housing

Smart Parking mobility services

Safe & Secure Territory

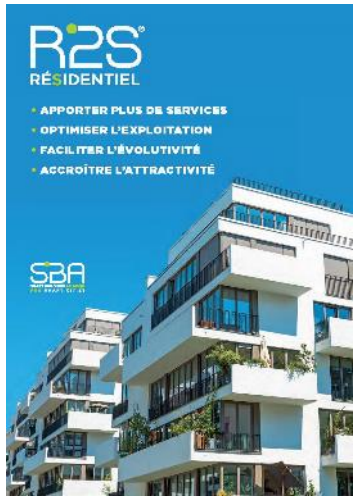
Smart Lighting

Smart Hospital

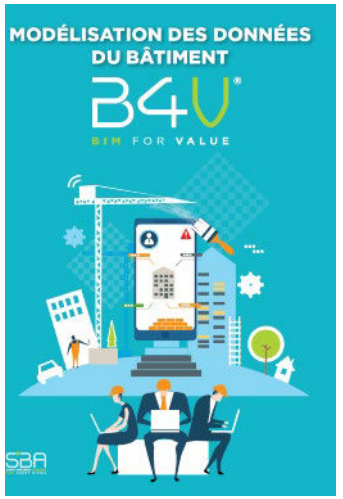
SBA Manifesto

Connected Building Charter

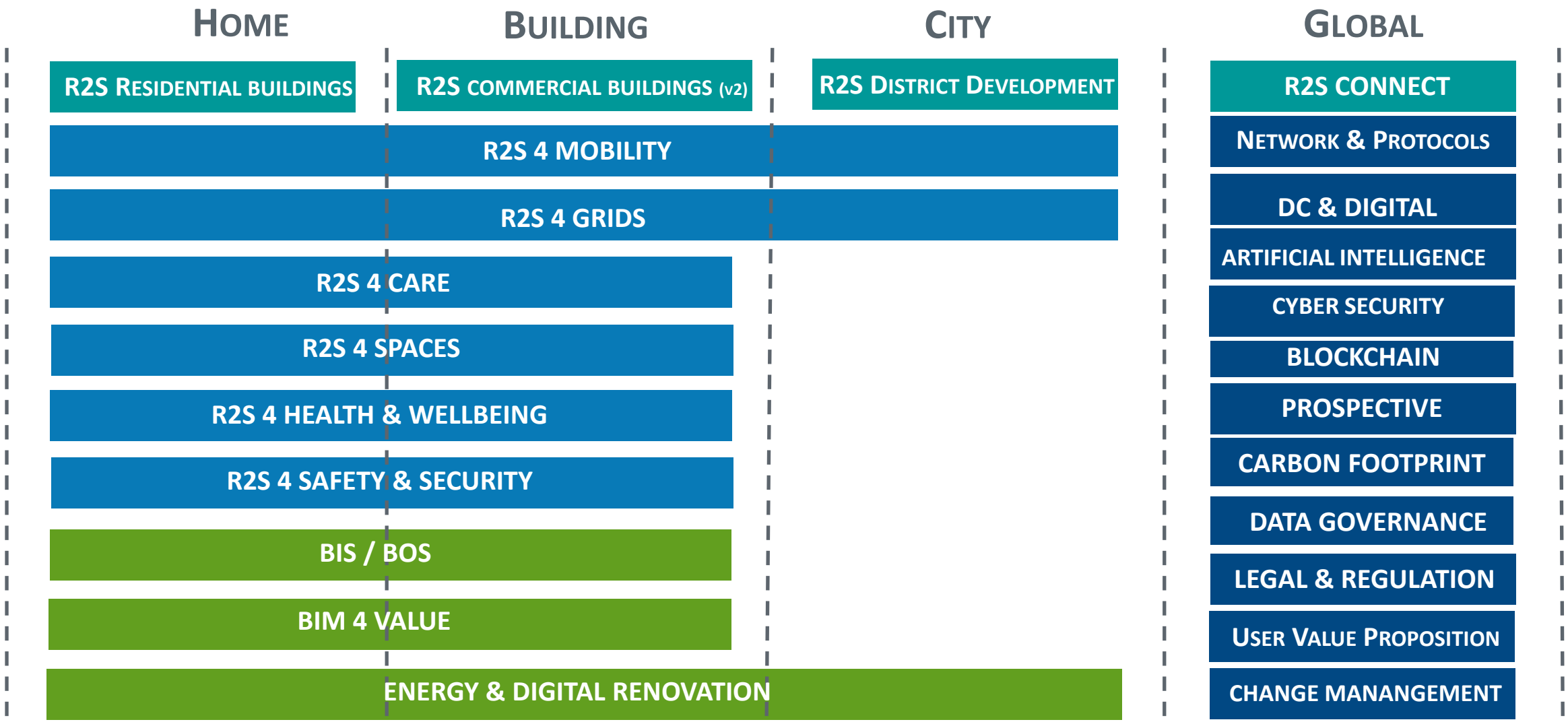
Ready2Service Framework



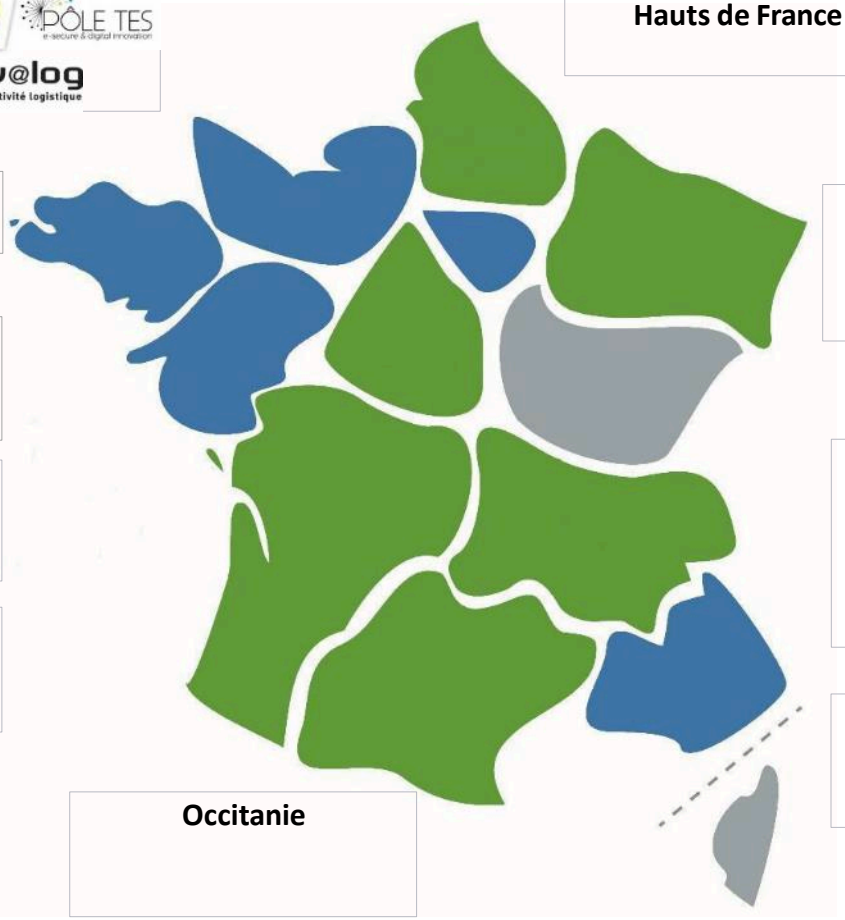
BIM4Value Framework



WHAT WE DO: Active Work Groups



WHAT WE DO: Regional Coverage



Normandie

Hauts de France

Bretagne

Grand Est

Pays de la Loire

Auvergne Rhône Alpes

Centre & Val de Loire

Nlle Aquitaine

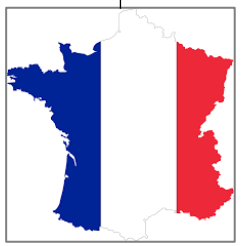
PACA

Occitanie

Going Internationnal

Opening in 2020

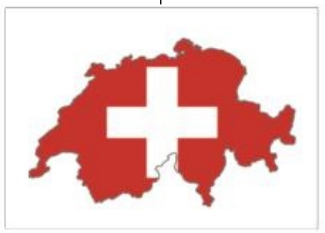
SBA International HQ



France
Created
2012

Luxembourg
Planned opening
2020

Belgium
Planned opening
2020



Switzerland
Planned opening
2020

Italy
Planned opening
2020

Under discussion …

Germany

UK

USA

China

Our Next Step:

- Tunisia / Morocco / Algeria
- Nordics
- Canada
- and more …

SMART HOME WORK GROUPS

SMART BUILDING WORK GROUPS

SMART CITY WORK GROUPS

GLOBAL WORK GROUPS

PROMOTE SBA'S PHILOSOPHY & WORK IN EACH COUNTRY/REGION

CONTRIBUTE TO FOSTER INNOVATION IN URBAN DEVELOPMENT & BUILDING SECTOR

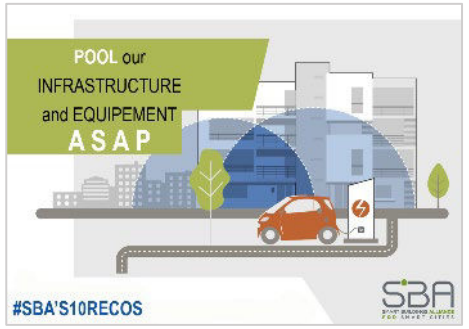
INTERNATIONAL

SMART BUILDINGS ALLIANCE FOR SMART CITIES

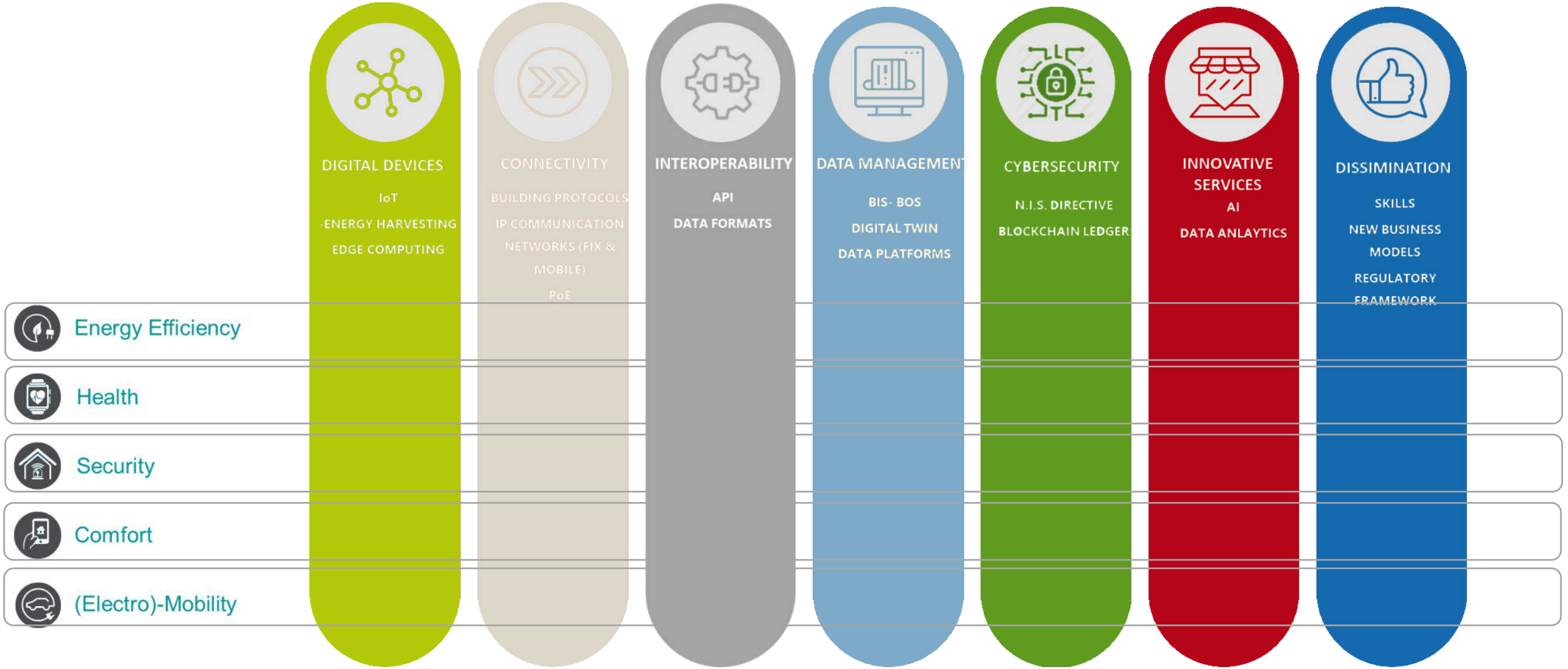
INTERNATIONAL NETWORK OF URBAN INNOVATORS

SBA WORK THEMES

Digital technology at the core of every action plan
SBA's 10 smart & green recommendations



Strategic domains & fields of interest



R2S Reference Framework

SBA & Ready2Services (R2S)
Creating the framework to foster smart buildings for smart cities connected & sustainable development

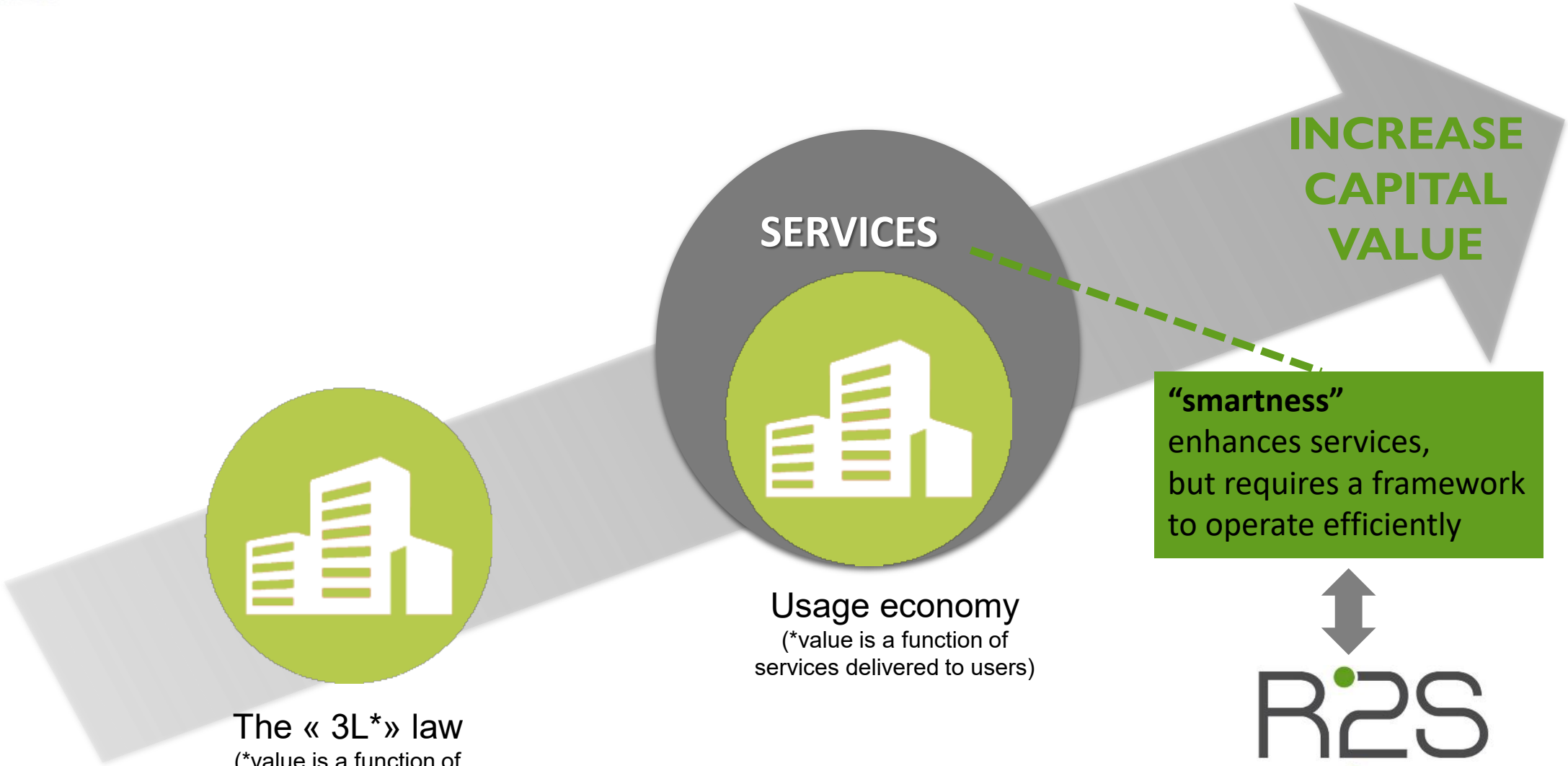
R2S FOR COMMERCIAL BUILDINGS

R2S FOR RESIDENTIAL BUILDINGS

R2S FOR DISTRICT DEVELOPMENT

LABEL R2S READY2SERVICES

The need for a new approach promoting value of services



Benefits of R2S approach

PROVIDE MORE SERVICES

OPTIMIZE OPERATIONS

IMPROVE FLEXIBILITY OF USAGES

INCREASE PROPERTY VALUE / ATTRACTIVENESS

R2S® READY2SERVICES

General framework for building connectivity and beyond

R2S® READY2SERVICES

Services
Use the building connectivity and communication capacity to enable deployment of services

Cyber security
Ensure system security and protect data

Responsible management
Project management, contracting framework, commissioning, interested parties competence

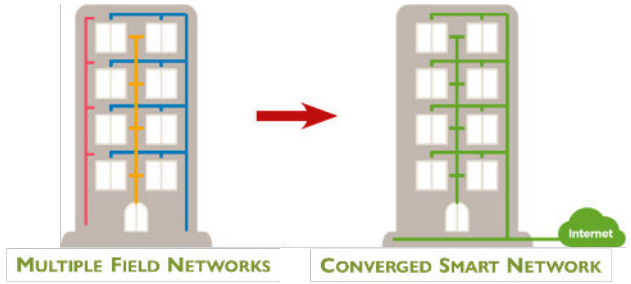
Equipments and interfaces
Link equipment, network and services

Connectivity
Ensure efficient connectivity of the building

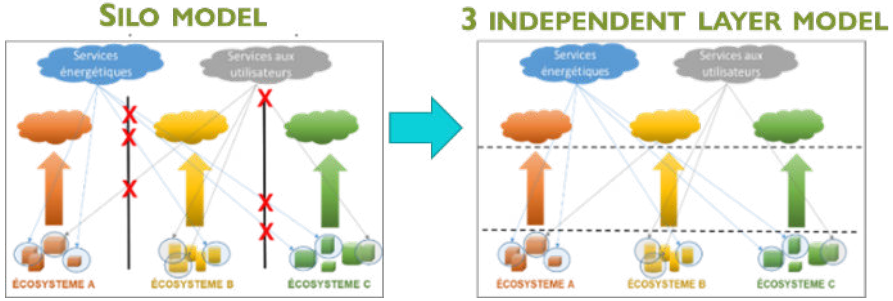
Network infrastructure
Ensure free movement of data both inside and outside buildings

Converged Smart Network for the building based on Ethernet – IP

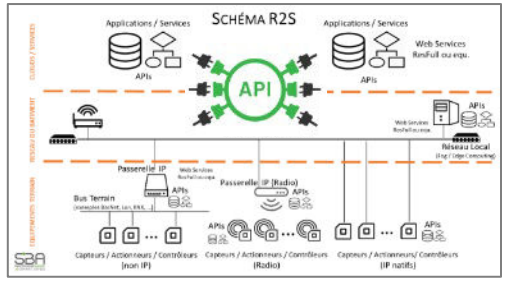
THE INFRASTRUCTURE OF THE BUILDING'S 4TH FLUID (DATA)



Modular architecture based on 3 independent layers



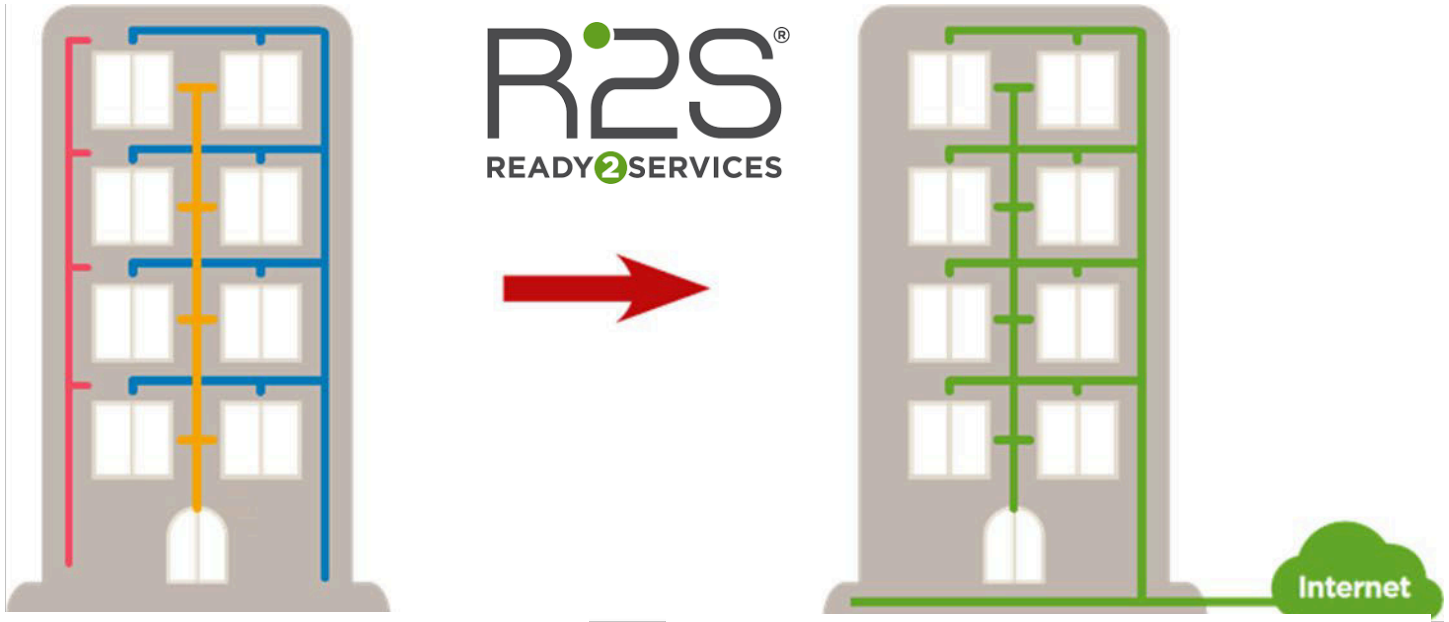
Open access to data and interoperability of systems



CONVERGED SMART NETWORK FOR THE BUILDING BASED ON ETHERNET - IP

THIS IS THE INFRASTRUCTURE OF THE BUILDING'S 4TH FLUID (DATA) …

based on a standard and universal data transport protocol Ethernet – IP, this infrastructure includes, wired or wireless connectivity for the transportation of data, as well as network management systems, routing and logical organization of data flows and network services for the building.



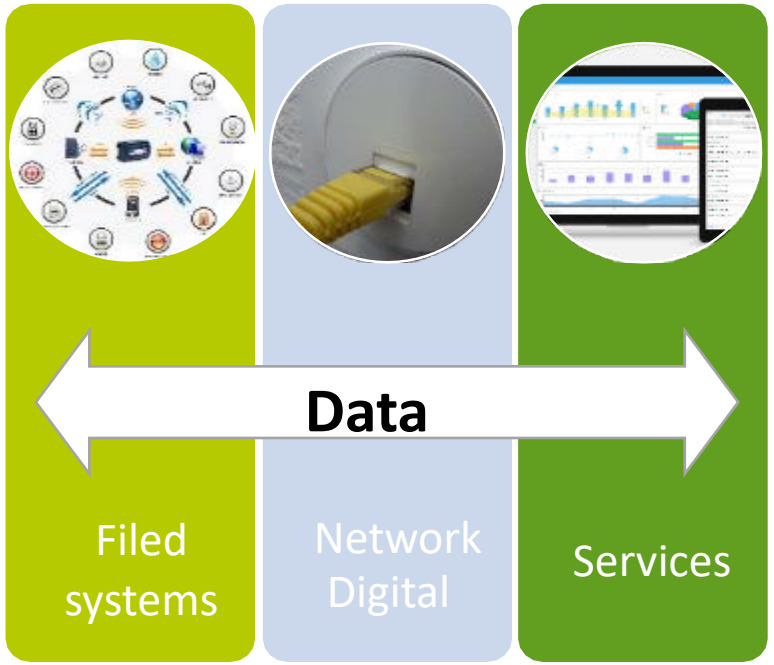
MULTIPLE FIELD NETWORKS

CONVERGED SMART NETWORK

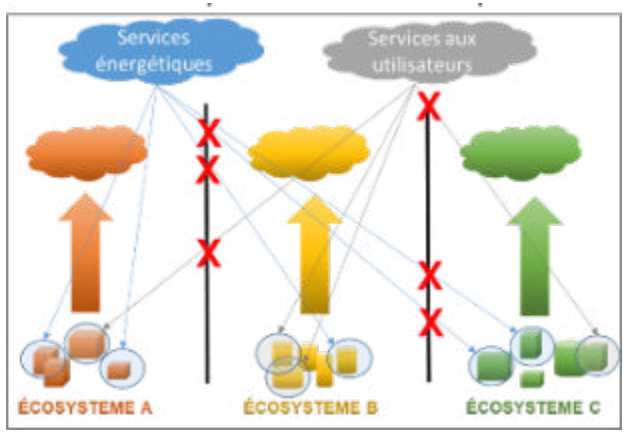
MODULAR ARCHITECTURE BASED ON 3 INDEPENDENT LAYERS

Each technical layer : Field systems, Network/Digital infrastructure & Service, should be able to be changed without modifying the others two …

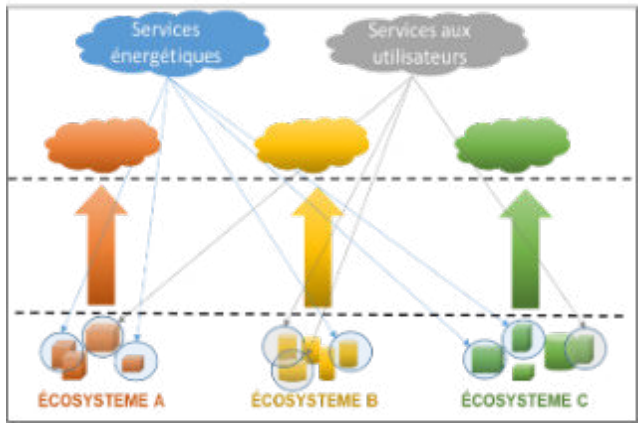
A hardware ecosystem does not impose a proprietary service or a dedicated network/digital infrastructure and vice versa



SILO MODEL



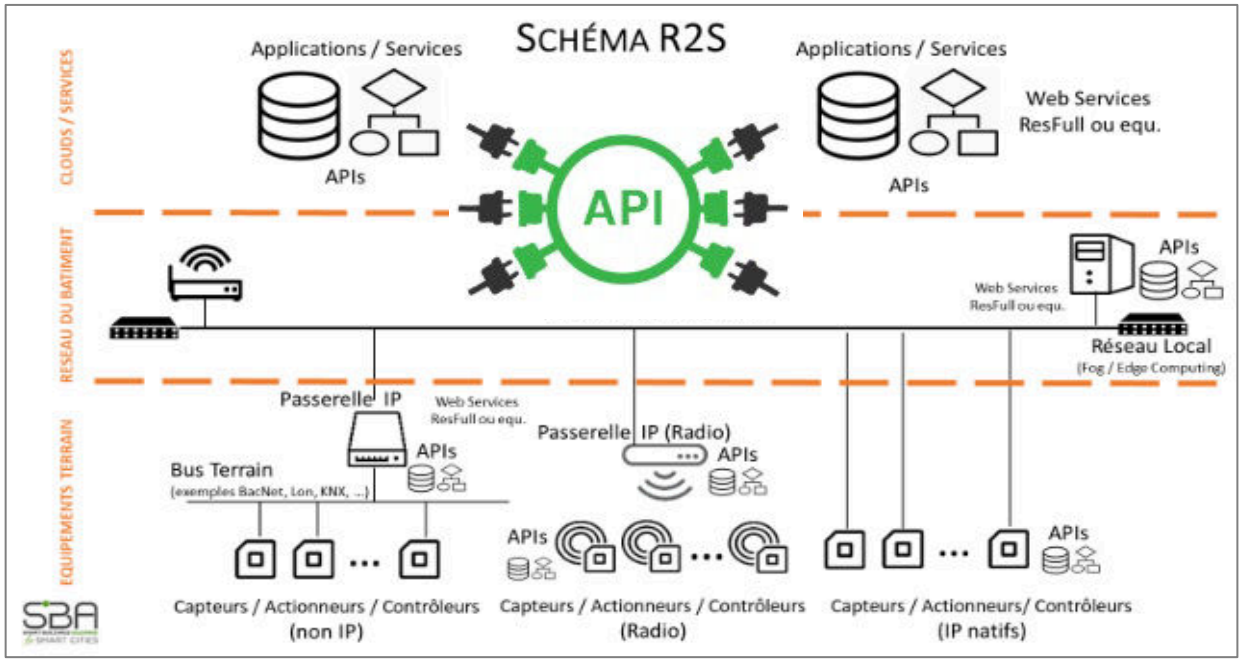
3 INDEPENDENT LAYER MODEL



OPEN ACCESS TO DATA AND INTEROPERABILITY OF SYSTEMS

USE OPEN API (APPLICATION PROGRAMMING INTERFACES) TO ALLOW EASY ACCESS TO DATA …

produced and / or used by the connected devices and related services, whether the services are available locally and / or through the cloud. Ensure existence of documentation and licenses of use are available and accessible to third parties.



API Documentation
& user licences

Principles underlying R2S framework • 4/4

A TRUSTED FRAMEWORK FOR DIGITAL SECURITY AND DATA PROTECTION

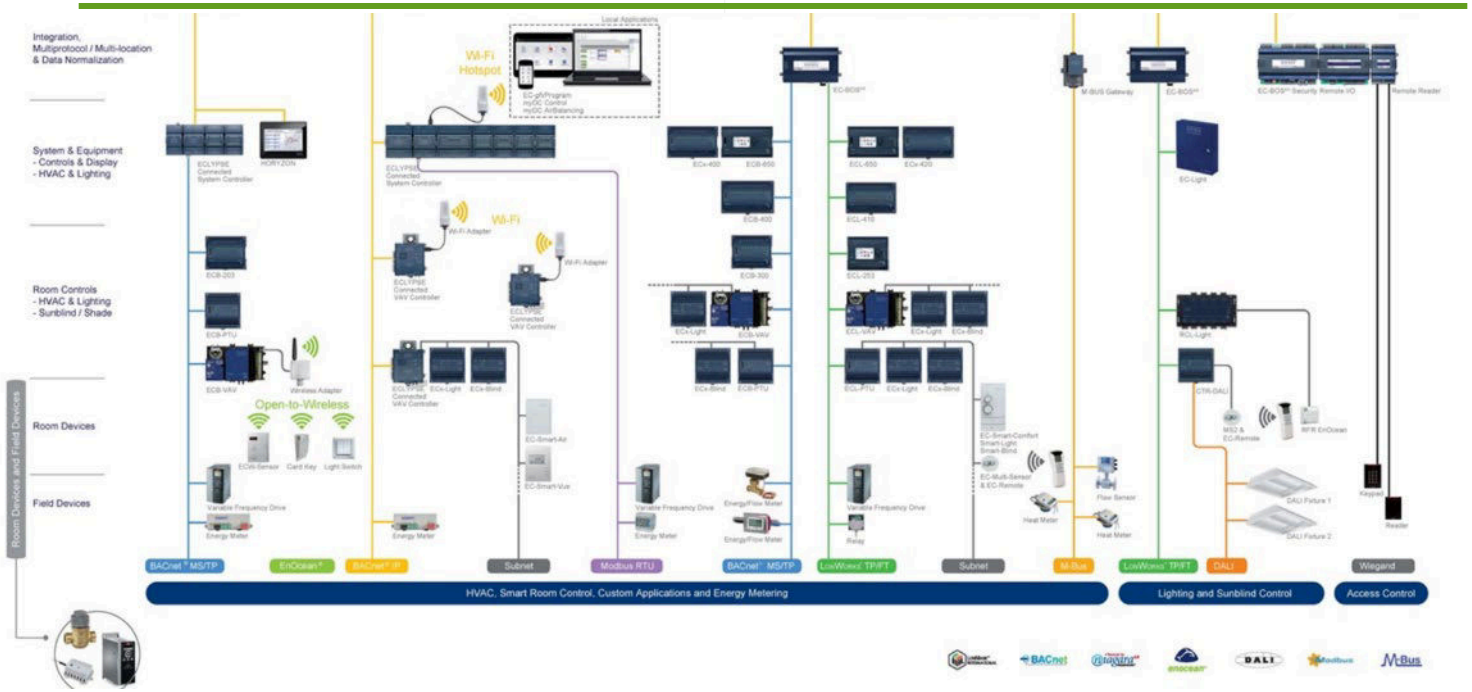
Making accessible and controllable building functions locally or remotely via digital tools, requires to consider systems (equipment, networks, services, data) security policies , as well as data protection procedures (data administration policy, new European regulation on data protection : GDPR ...).

SMART SERVICES

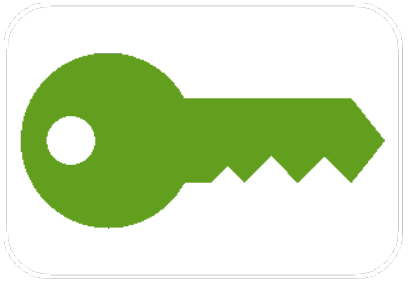
Central API

Field API

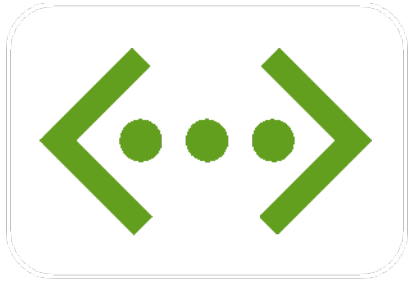
Building Smart Network (Ethernet-IP)



API Guidelines



Authentication

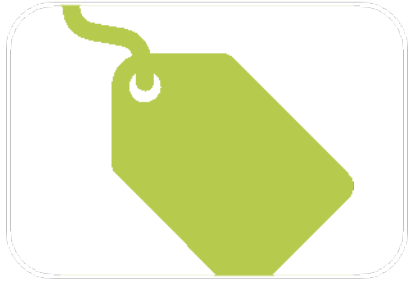


Access to API

API Formats

API Documentation

Equipment Discovery



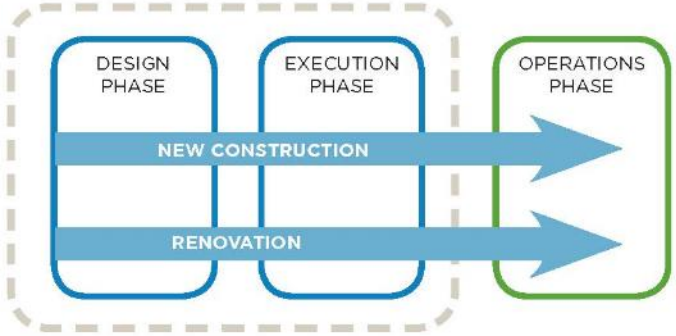
Equipment Identification

Equipment Localization

Equipment Configuration

R2S for all types of construction & during all phases

During the **Building/Renovation phases**, the approach is applied by the developers, real-estate firms and the owners of the building.
During the **Operations phase** it is applied by the building owners and/or the occupants with the owner's consent.



Hospitals, campus, schools, kindergartens, stores, offices, shops, hotels, sporting facilities …

Residential buildings

R2S FOR COMMERCIAL BUILDINGS

R2S FOR RESIDENTIAL BUILDINGS

R2S FOR DISTRICT DEVELOPMENT

R2S® RÉSIDENTIEL

R2S for residential buildings

R2S® RÉSIDENTIEL

BASE

TECHNICAL & ORGANIZATIONAL FOUNDATIONS

- DIGITAL TRUST FRAMEWORK
- SMART & SUSTAINABLE MANAGEMENT
- CONNECTIVITY & SMART NETWORK
- EQUIPMENT & INTERFACES

SERVICE DOMAINS

- ENERGY & FLUIDS
- COMFORT & WELL-BEING
- SECURITY
- DIGITAL SERVICES & USAGES
- E-HEALTH & PERSONAL CARE
- SHARED SERVICES
- OPERATIONS & MANAGEMENT

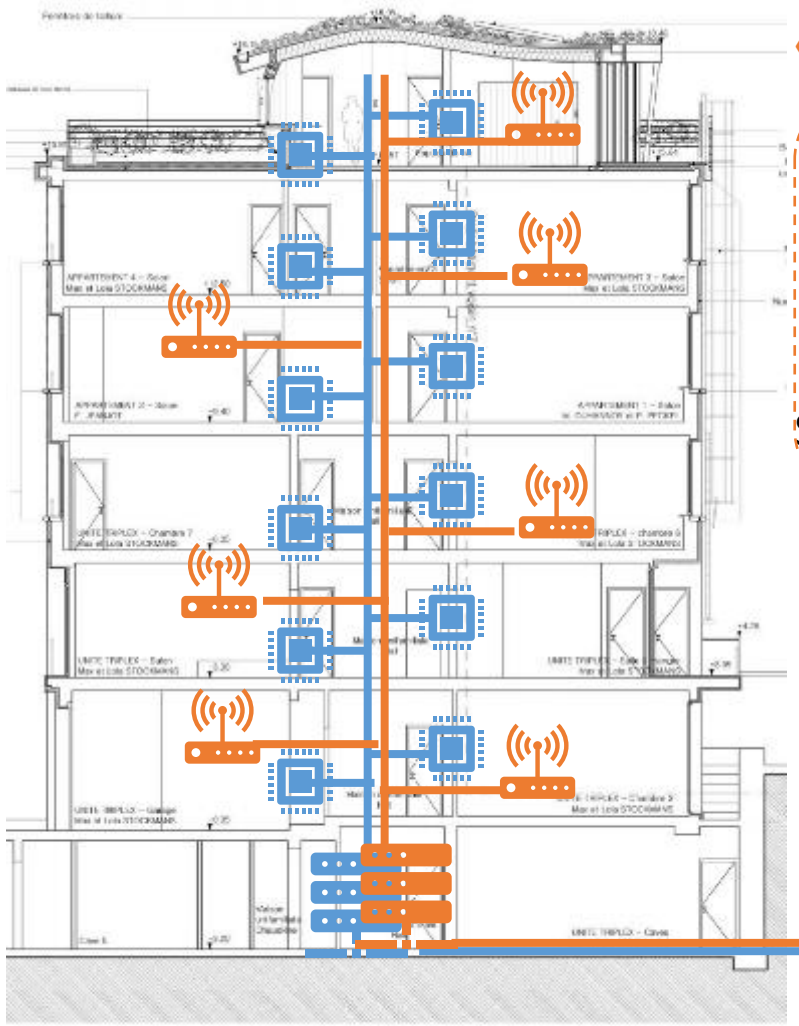
Smart résidential building vs smart home (owned by occupant)

Smart Residential Building
« attached to building»

Building IoT Devices

Gateway
to Dwelling

Building Smart Network



Smart Home
« attached to occupant »

Personal IoT devices

Smart Home Gateway

TELECOM

Service families for R2S Residential

ÉNERGIE & FLUIDES	1.1 Mesure et mise à disposition des consommations d'énergie & fluides	1.2 Optimisation des consommations d'énergie & fluides	1.3 Pilotage connecté du chauffage	1.4 Gestion de l'eau	1.5 Transparence dans la communication des consommations énergétiques	1.6 Maitrise des facteurs d'influence des consommations énergétiques	1.7 Flexibilité énergétique …	1.8 Pilotage de la production d'énergie locale
CONFORT & BIEN-ÊTRE	2.1 Gestion du confort thermique	2.2 Pilotage des occultants / ouvrants	2.3 Pilotage des éclairages	2.4 Mesure de la qualité de l'air				
SÉCURITÉ	3.1 Détection d'incendie connectée	3.2 Détection de fuite d'eau connectée	3.3 Détection de fuite de gaz connectée	3.4 Système anti-intrusion connecté	3.5 Vidéo Surveillance des parties communes	3.6 Portier vidéo et accès résidence connectés	3.7 Serrure connectée logements	3.8 Extinction manuelle connectée
QUALITÉ D'USAGES NUMÉRIQUE	4.1 Carnet numérique du logement et du bâtiment	4.2 Portail de services smart du logement/bâtiment	4.3 Bouquet de services connectés, à la carte	4.4 Réseau Voix-Données-Images garanti et renforcé	4.5 Existence d'un accès public WiFi de la résidence	4.6 Couverture "Indoor" des réseaux Mobiles	4.7 Ecrans interactifs dans la résidence	
E-SANTÉ & MAINTIEN À DOMICILE	5.1 Système détection des situations à risques	5.2 Dispositif facilitant la liaison entre les aidants (professionnels et familiaux	5.3 Dispositif de maintien et développement du lien social	5.4 Systèmes de monitoring des paramètres physiologiques	5.5 Fonctions facilitant le bien vieillir à domicile			
SERVICES PARTAGÉS	6.1 Bornes de recharge connectées pour VE	6.2 e-Conciergerie	6.3 Boites aux lettres / boites à colis connectées	6.4 Ressources d'immeuble partagées	6.5 Places de parking partagées	6.6 Ascenseurs connectés		
SERVICES GÉNÉRAUX	7.1 Supervision des équipements liés aux parties communes	7.2 Maintenance multi technique	7.3 Suivi d'exploitation	7.4 Suivi de gestion de l'immeuble				

to be translated

R2S FOR …

R2S FOR COMMERCIAL BUILDINGS

R2S FOR RESIDENTIAL BUILDINGS

R2S FOR DISTRICT DEVELOPMENT

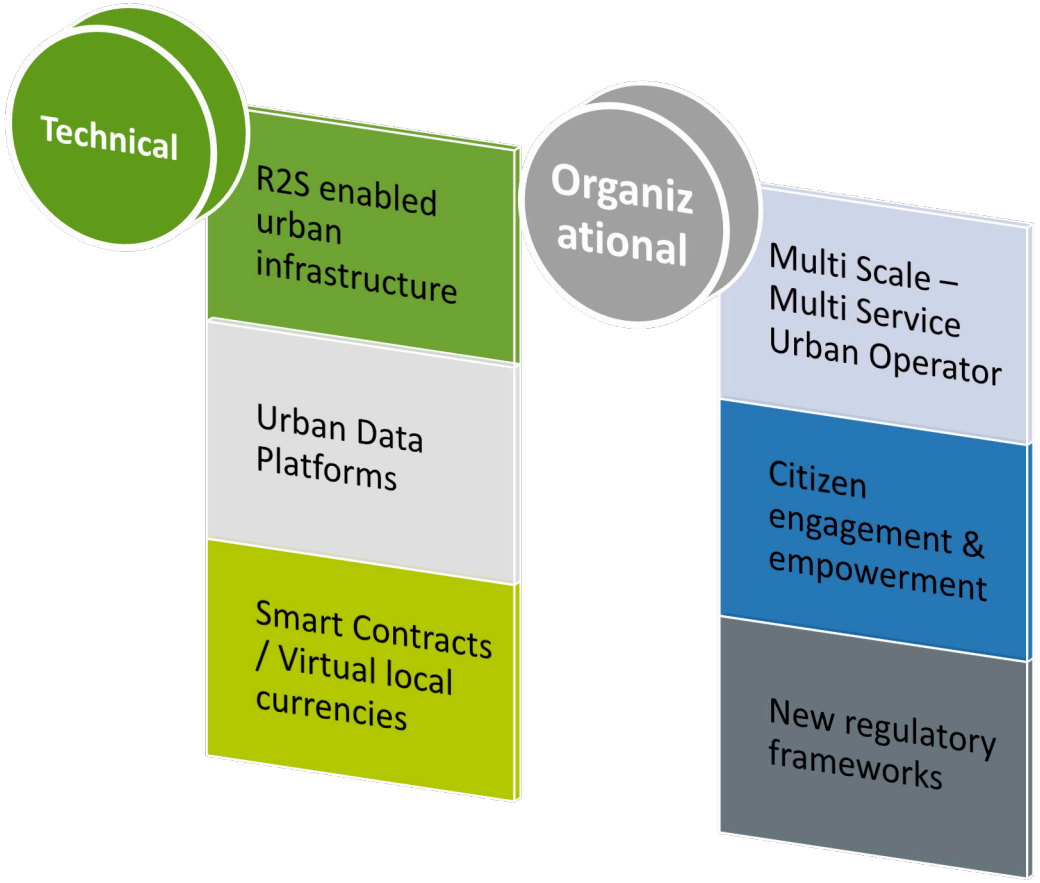
LABEL R2S READY2SERVICES

Smart Cities strive to catch up with digital transition, requiring new collaboration strategies

- Promote positive externalities by involving all actors of the value chain
- Develop a global & holistic vision vs current silo approach
- Foster a collaborative and inclusive economy
- Involve & empower the different stakeholders

New Business models based on

- "Everything" as a Service
- Share economy
- Crowdfunding
- Blockchain / Virtual local currencies
- …



Prerequisite

Emergence of new players & business models

Service Operators

- Smart Buildings & Smart City local service aggregation
- New innovative Business Models enabling interaction between heterogeneous players (create value from positive externalities)

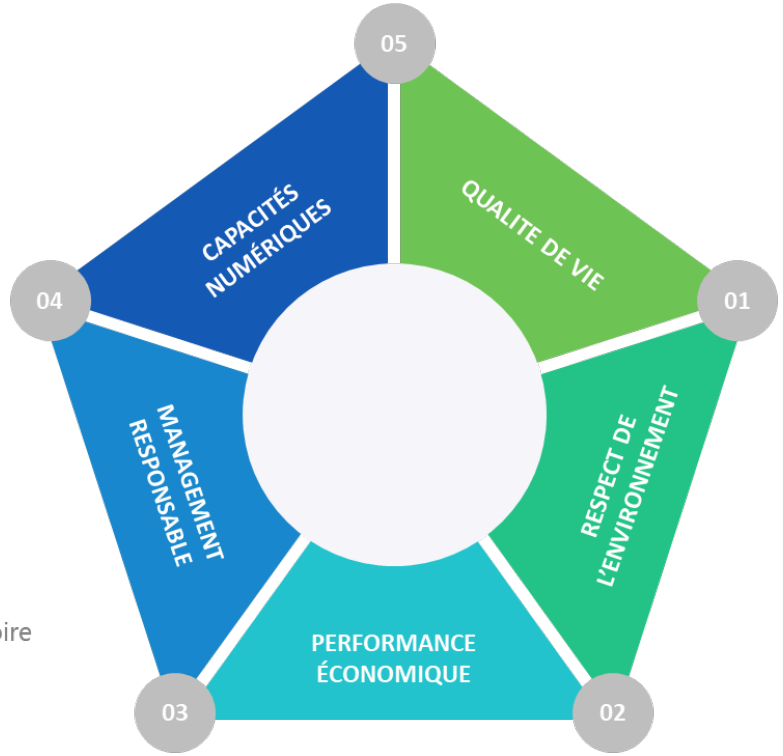
Trusted Third Parties for Urban Data Management

- Provides a consolidated Urban Data Platform
- Warrant for security and confidentiality of Data
- Warrant of the contractual terms of data distribution

R2S for district developpement

CAPACITÉS NUMÉRIQUES

- Connectivité & Réseaux
- Interfaces de communication
- Gouvernance numérique
- Cybersécurité
- Sobriété numérique



QUALITÉ DE VIE

- Bien vivre ensemble
- Mobilité & Accessibilité
- Santé & Confort
- Paysage, patrimoine & identité
- Résilience, sûreté, sécurité

MANAGEMENT RESPONSABLE

- Conduite de projet
- Gouvernance
- Synergie et cohérence avec le territoire
- Maîtrise foncière

RESPECT DE L'ENVIRONNEMENT

- Energie & Climat
- Nature & Biodiversité
- Eau
- Ressources & Déchets
- Pollutions

PERFORMANCE ÉCONOMIQUE

- Economie & Coût à long terme
- Dynamisme & Développement du territoire
- Services & Fonctions productives
- Adaptabilité & Évolutivité

to be translated

CONNECTIVITÉ & RÉSEAUX

INTERFACES DE COMMUNICATION

GOUVERNANCE NUMÉRIQUE

CYBERSÉCURITÉ

SOBRIÉTÉ NUMÉRIQUE

R2S: a global approach

APPLIED TO MULTIPLE SCALES & MULTIPLE SERVICE DOMAINS

R2S FOR COMMERCIAL BUILDINGS

R2S FOR RESIDENTIAL BUILDINGS

R2S FOR DISTRICT DEVELOPMENT

LABEL R2S READY2SERVICES

R2S framework expanded to service domains

SAFETY & SECURITY SERVICES

BUILDING OCCUPANCY SERVICES

MOBILITY SERVICES

USER WELLBEING SERVICES

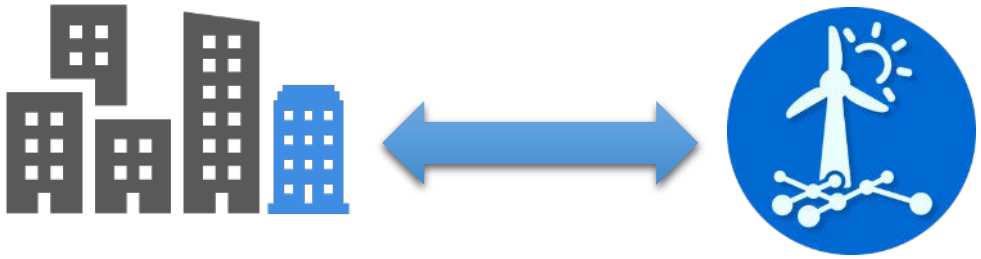
CARE SERVICES

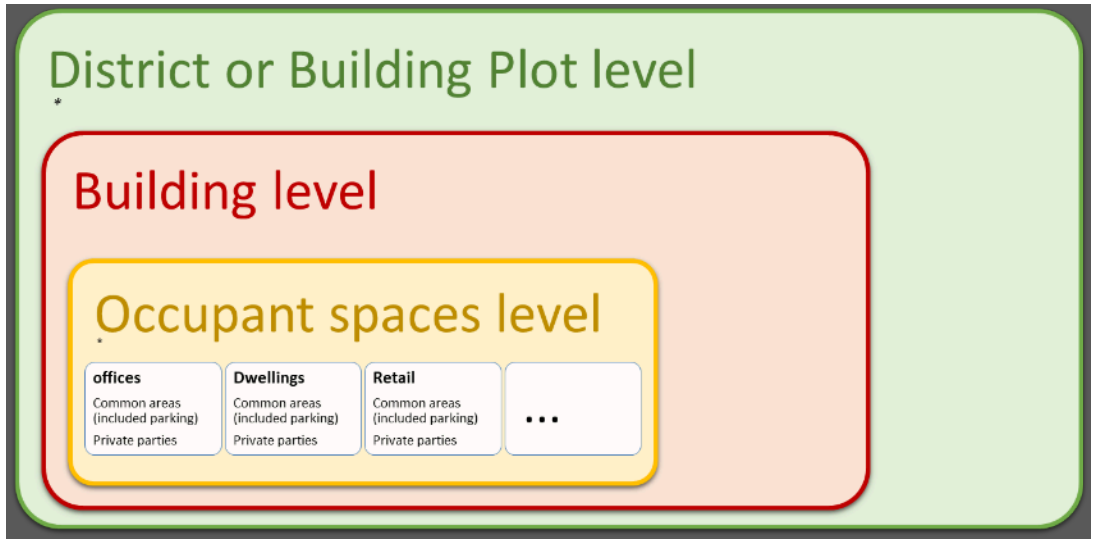
ENERGY SERVICES

OTHER SERVICES ...

R2S 4 GRIDS – reference framework

- R2S-4Grids is the energy extension of R2S reference framework shared by the ecosystem of building developers and energy stakeholders
- A framework that applies to commercial buildings as well as collective housing, new construction or renovation.
- A framework dedicated to building owners and developers
- A framework allowing buildings to host a set of innovative energy services and become players in the energy transition.





Fonctionnal properties of an R2S 4 GRIDS building

- **Level 1 – Connected Building**

  Share data and receive consumption information

- **Level 2 – Reliable Building**

  Know energy production, consumption and stick to objectives

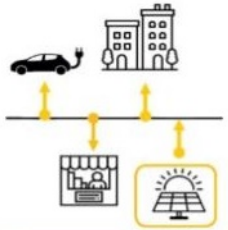
- **Level 3 – Active Building**

  Modulate production, consumption and storage according to requests, forecasts ...

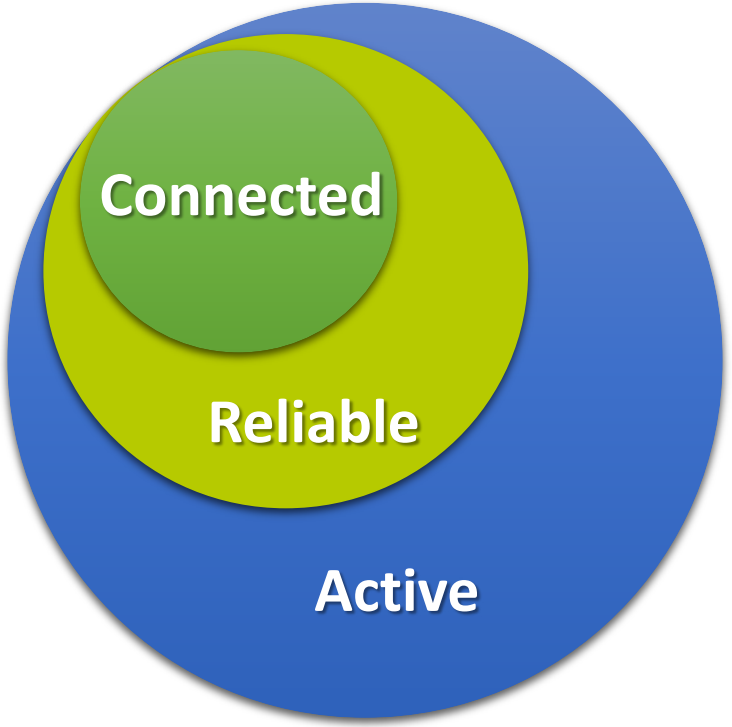
Energy Dashboard

Control of the energy bill and tariff optimization

Maximizing collective self-consumption



3 levels of functionalities for the R2S-4Grids building

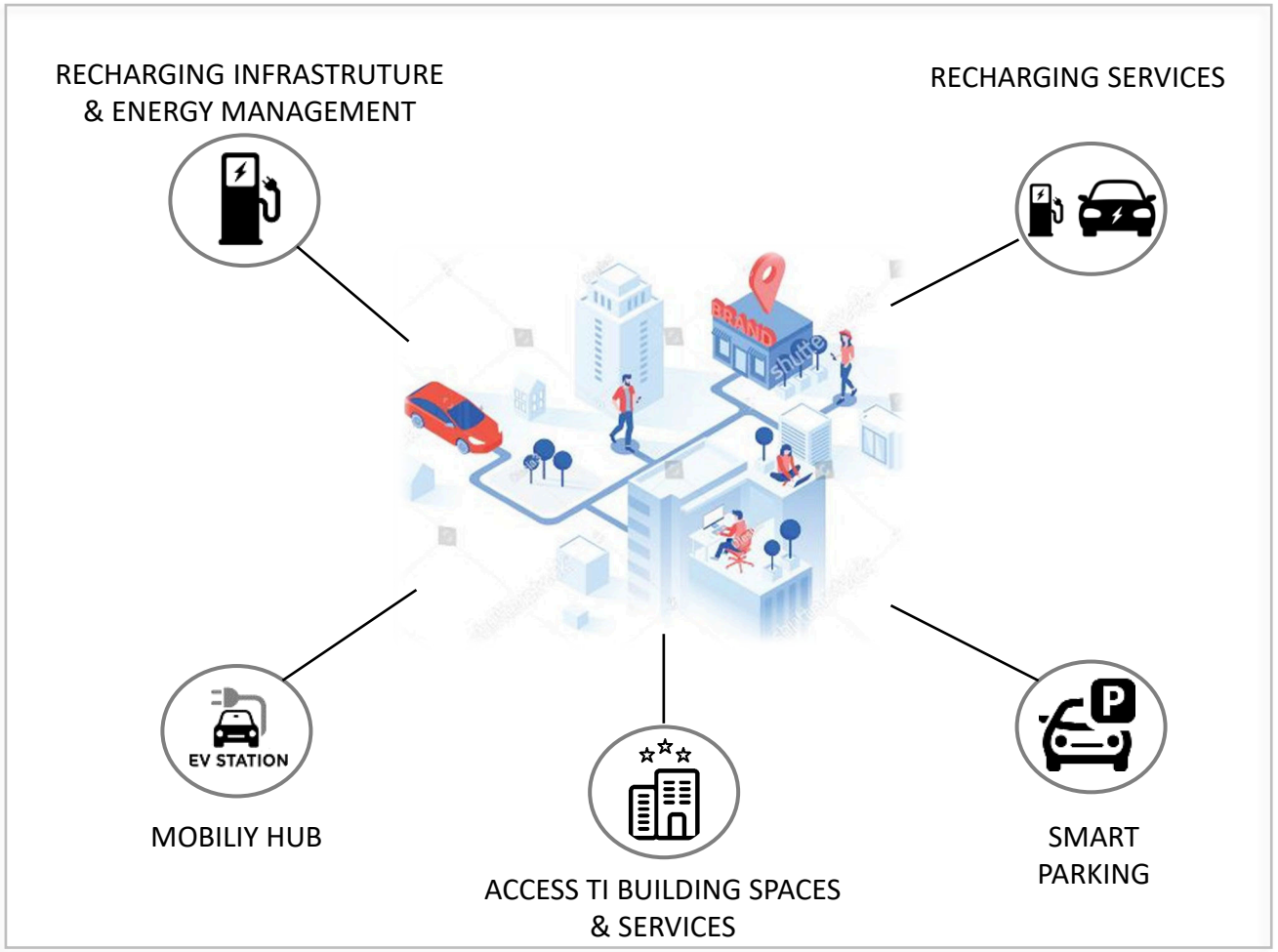


R2S 4 MOBILITY

Technical & Organizational

Mobility Services

- BUILDING INFRASTRUCTURE
- EQUIPMENT & INTERFACES
- DATA MANAGEMENT
- CYBERSECURITY
- QUALITY MANAGEMENT SYSTEM

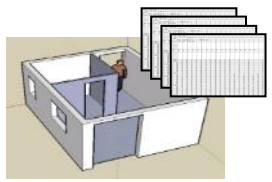


BIM FOR VALUE

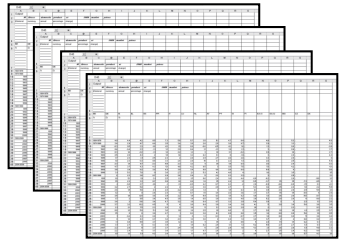

DATA
MANAGEMENT

B4V
BIM FOR VALUE

DESIGN BIM **BUILD BIM** **OPERATIONS BIM**



Building Structure



UNIFIED BIM

Technical Systems

BIM 4 VALUE – METHODOLOGY & BENEFITS

Setting expectations from Building Developers/Owners

Selecting BIM usages to be implemented

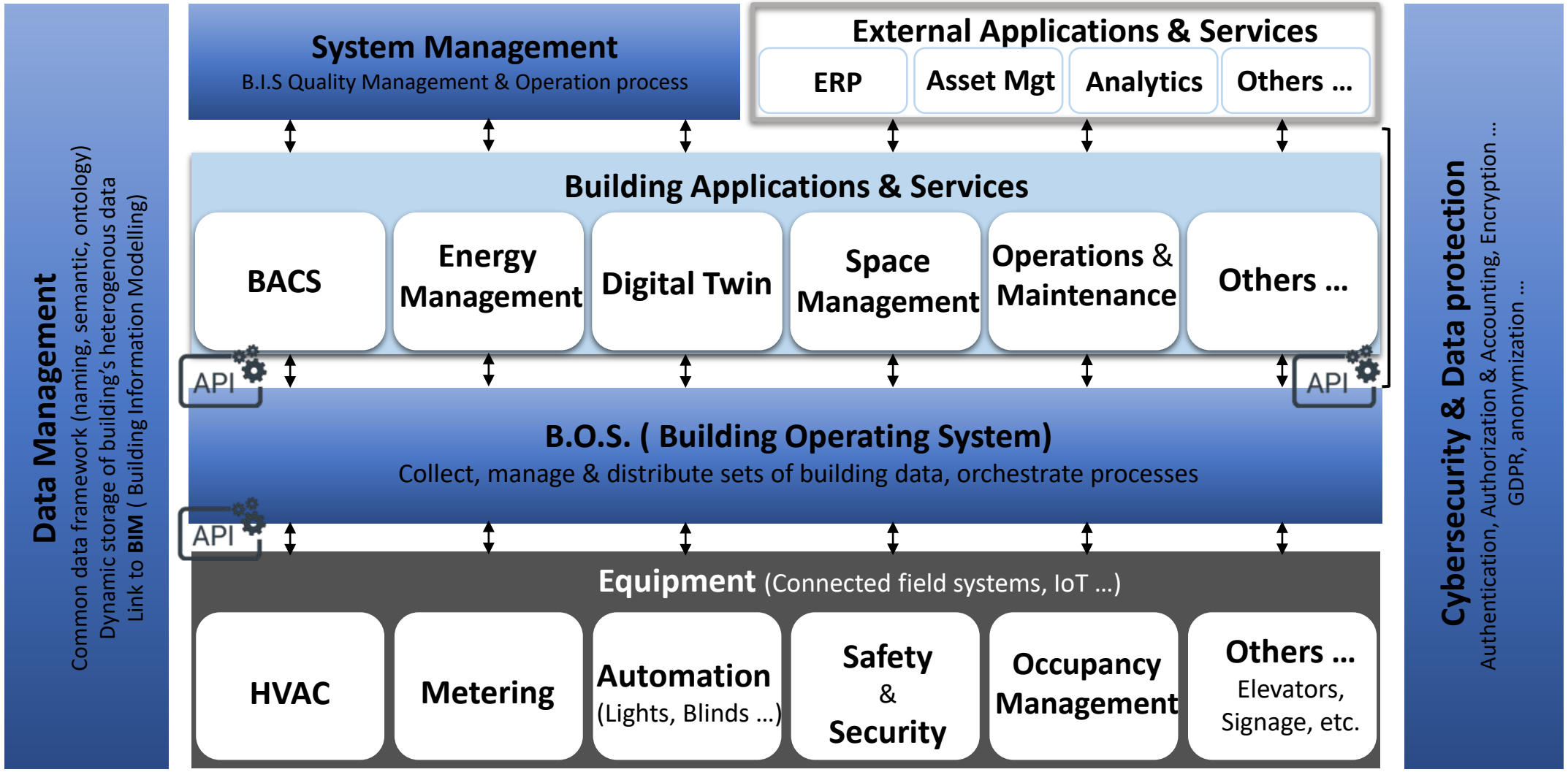
Integrating Project stakeholders' operational requirements

Controlling through auto evaluation and improvement process

METHODOLOGY

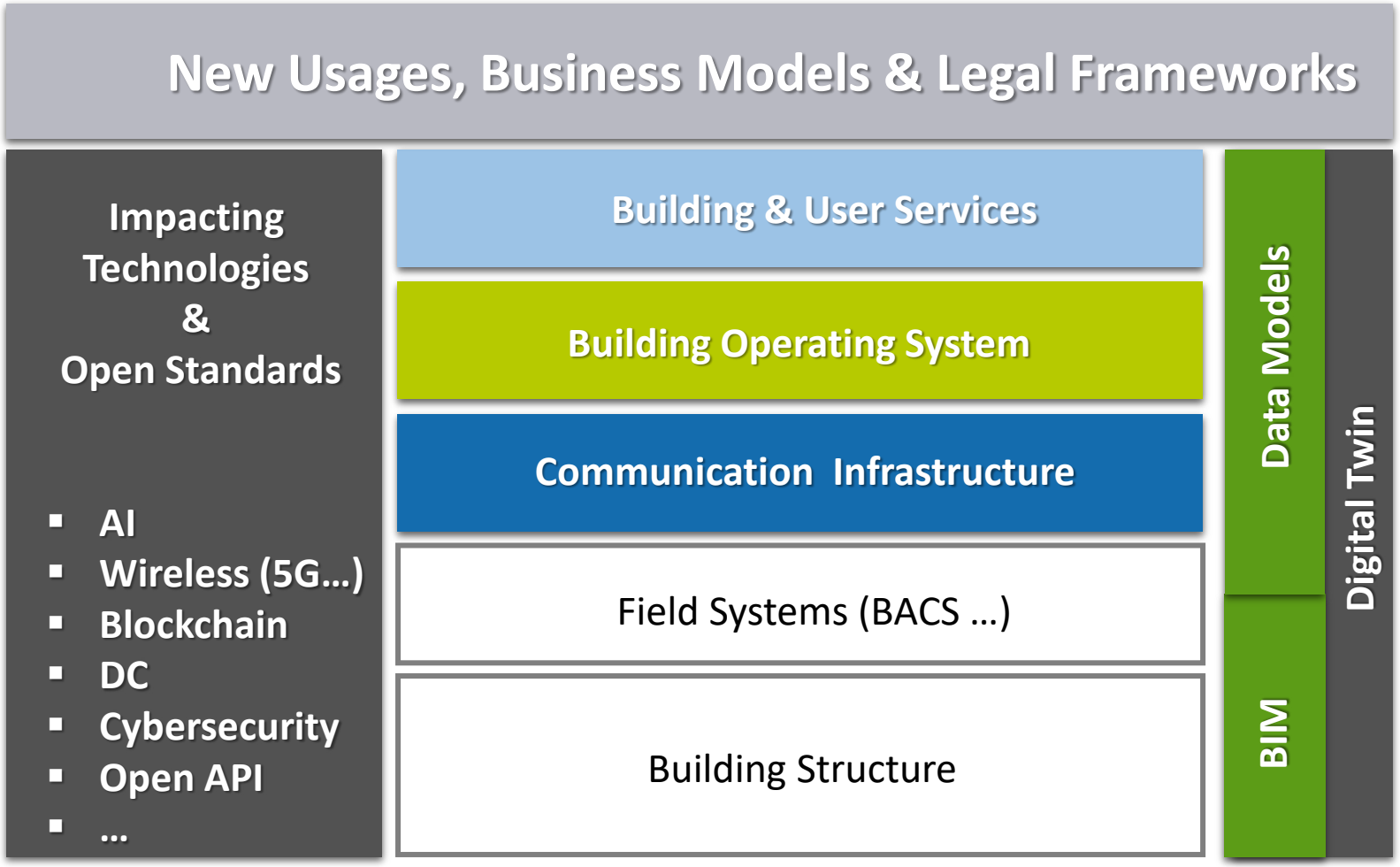
BENEFITS

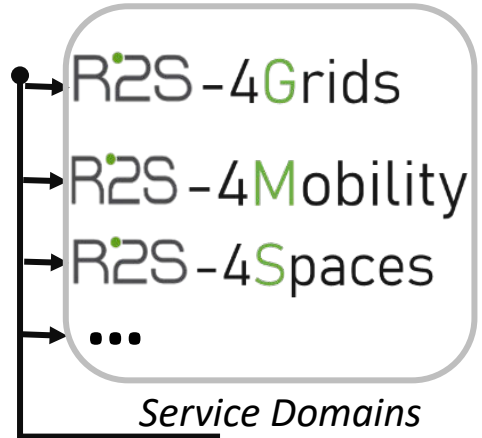
BUILDING INFORMATION SYSTEM (B.I.S.)



In summary: SBA is pionneering the way forward

FOR FRAMIN THE SMART BUILDING BLOCKS





Service Domains

R2S® READY2SERVICES

Digital Infrastructure Framework for Buildings

B4V BIM FOR VALUE

End to End BIM Methodology

THANK YOU FOR YOUR ATTENTION