French AQC
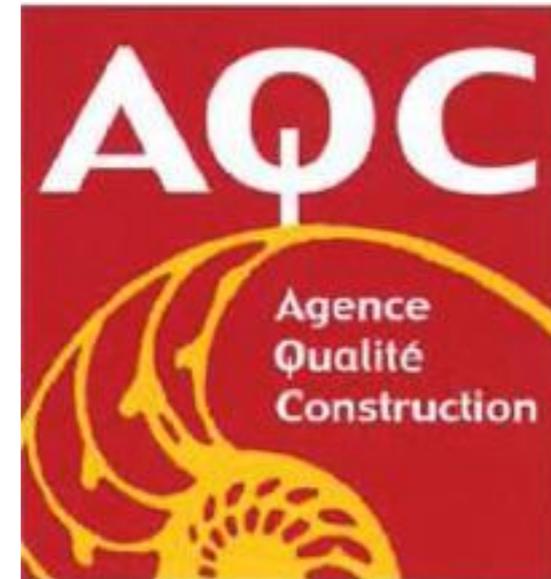# Workshop Seminar

Date: 14:00-16:15 on 7th November (Tuesday) 2017
Place: Smile Hall of JHF (Japan Housing Finance Agency) building
Organized by HOW (Foundation for Housing of Warranty)
and IIBH(Institute of International Harmonization for Building and Housing

A flexible approach for an efficient building control system.

≪ *What is a building control system ?*≫

By Laurent Peinaud

Recognition

When I first attend a meeting of the Consortium of European Building Control (CEBC) in May 2010 in Oslo, I was struck by the difficulty of understanding what construction control is.
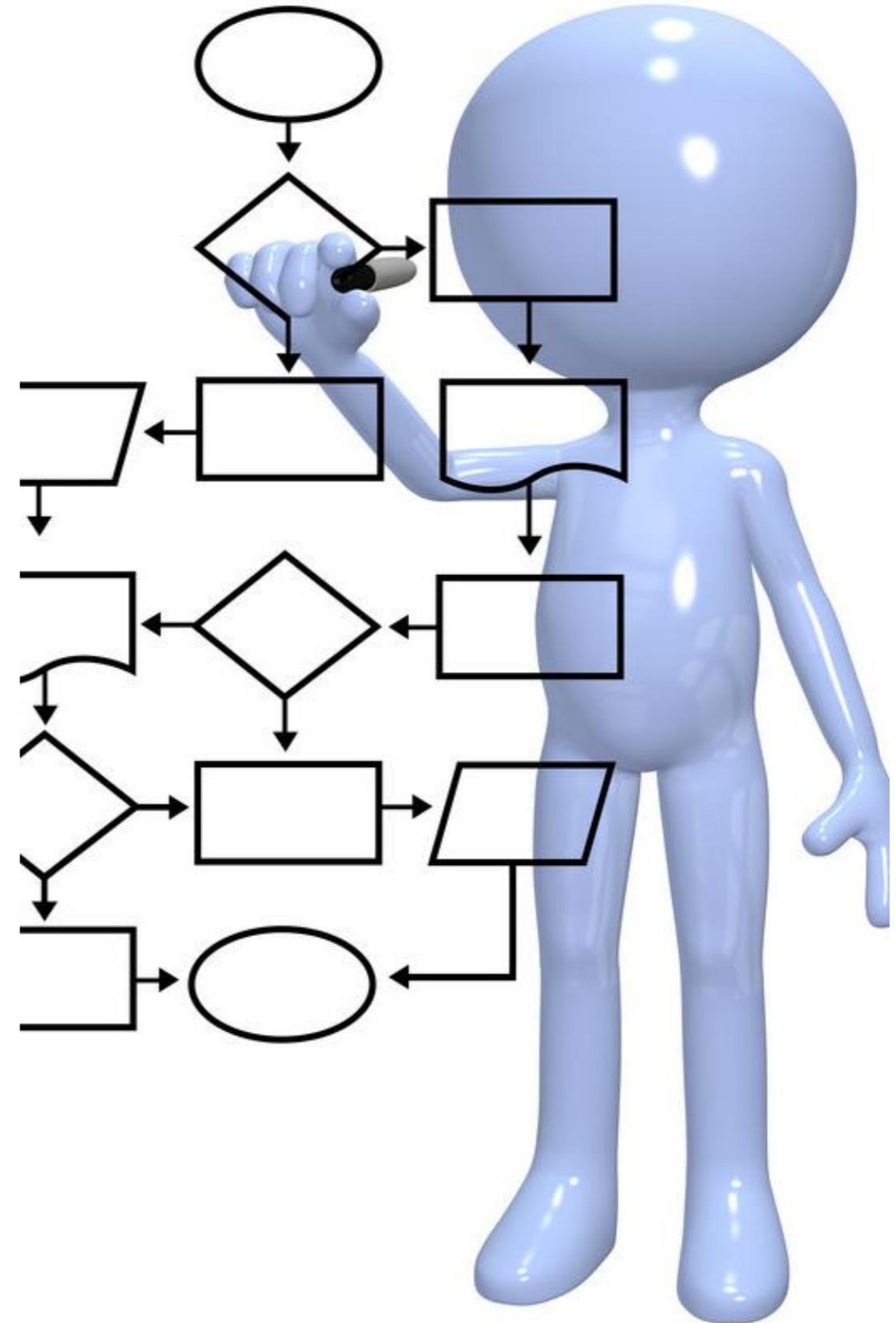And i was not the only one to be in such a confusion !

My involvement in COPREC (French association for building control), CEBC (consortium for European building control) and more recently in AQC (French agency for quality in construction) helps me to better understand what is Building Control.

This presentation has been made possible with the help of all the members of CEBC, COPREC, AQC and also with World bank and some foreign delegations (Japan, Latvia, ...).

Laurent Peinaud

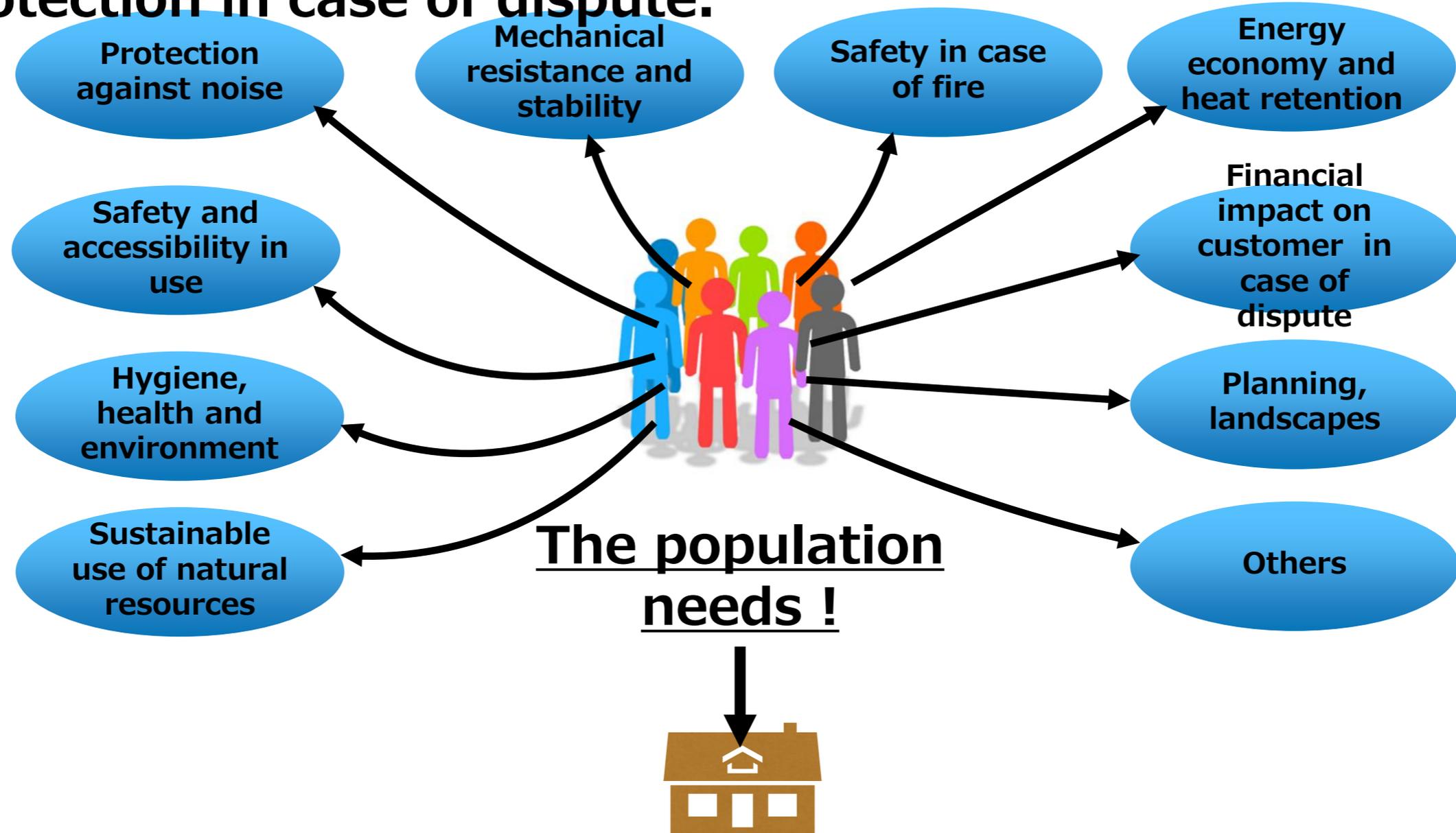A general framework for building sector

Requirements related with construction

The population satisfaction is a key strategic axis for any policy.

For building policy, it must be taken into account the "essentials" requirements.

At European level, to be efficient, we must add to the 7 essentials requirements related to product some more requirements such as landscape and urbanism or financial protection in case of dispute.

Protection against noise

Mechanical resistance and stability

Safety in case of fire

Energy economy and heat retention

Safety and accessibility in use

Financial impact on customer in case of dispute

Hygiene, health and environment

Planning, landscapes

Sustainable use of natural resources
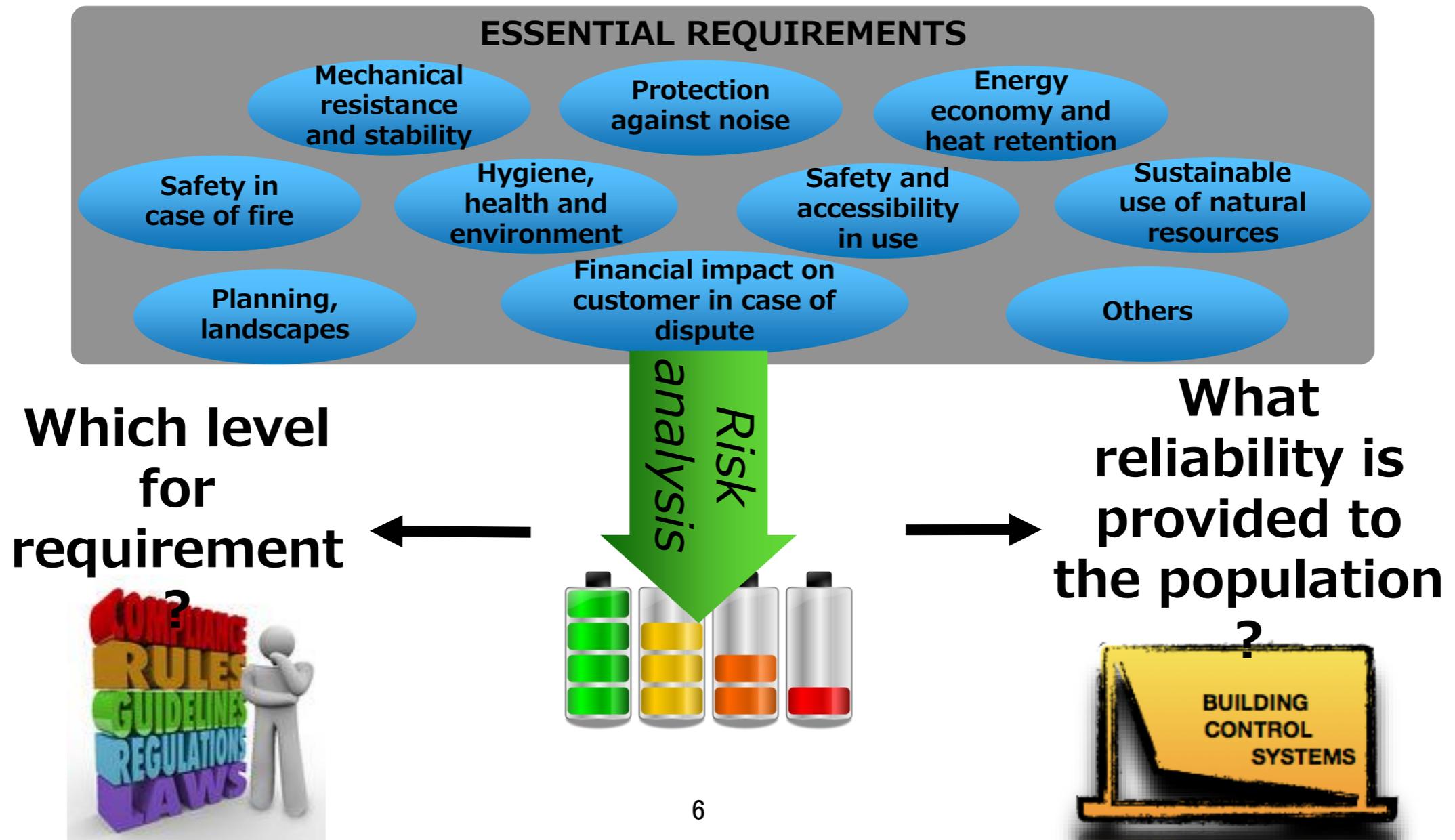
Others

The population needs !

Risk analysis on requirements

Risk analysis on requirements is an essential phase to set a building system.
At this step, the level of requirements and the reliability level to provide to the population are defined.
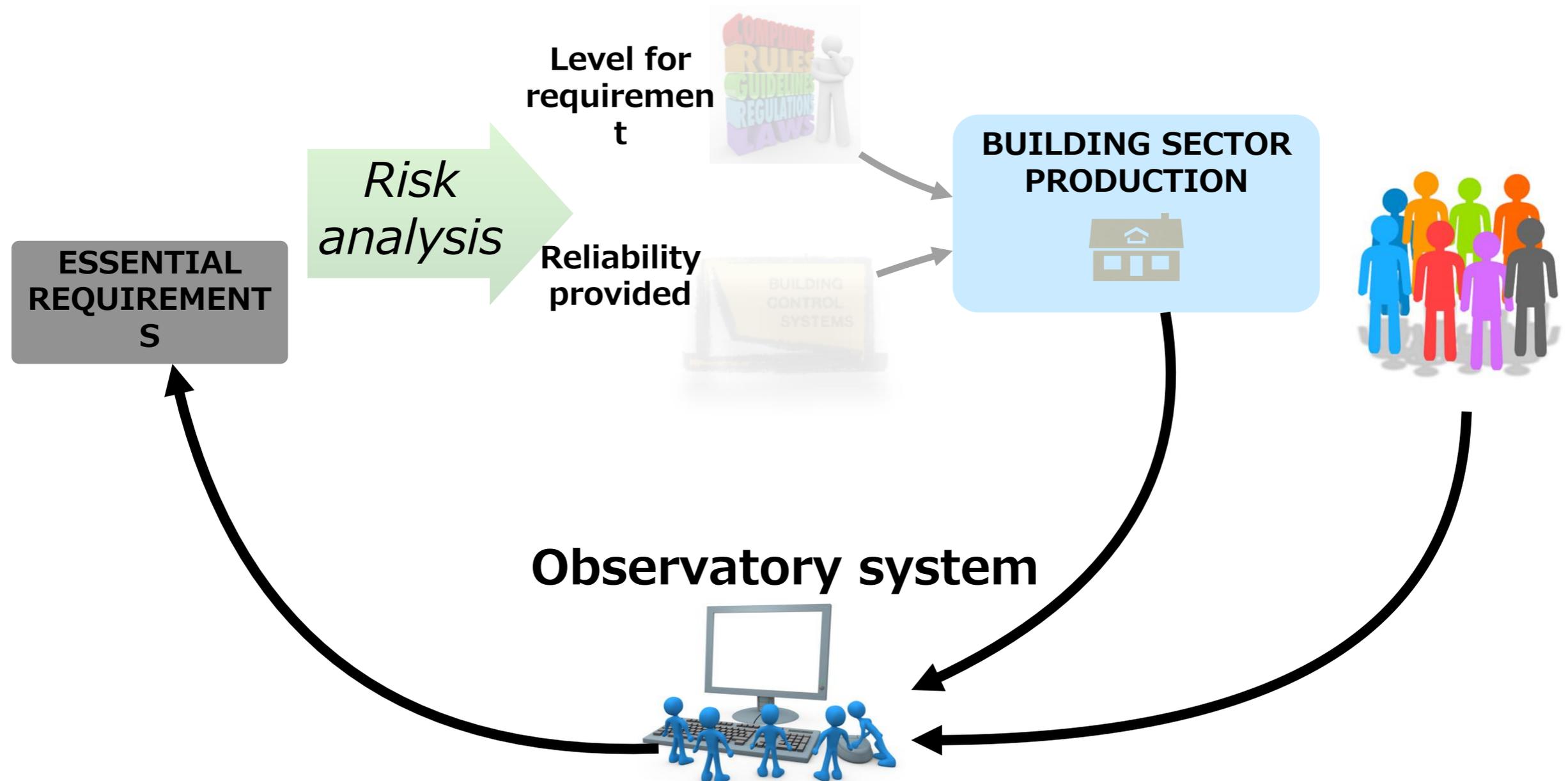The complexity is related to the sustainable development matters, such as economically affordable, socially acceptable and environmentally balanced.

ESSENTIAL REQUIREMENTS

- Mechanical resistance and stability
- Protection against noise
- Energy economy and heat retention
- Safety in case of fire
- Hygiene, health and environment
- Safety and accessibility in use
- Sustainable use of natural resources
- Planning, landscapes
- Financial impact on customer in case of dispute
- Others

Risk analysis

Which level for requirement?

What reliability is provided to the population?

BUILDING CONTROL SYSTEMS

An observatory to finalize the processus

The risk management process should be complemented by an observation system to identify potential and actual failures, make suggestions for improvements, and monitor trends in the population's need.
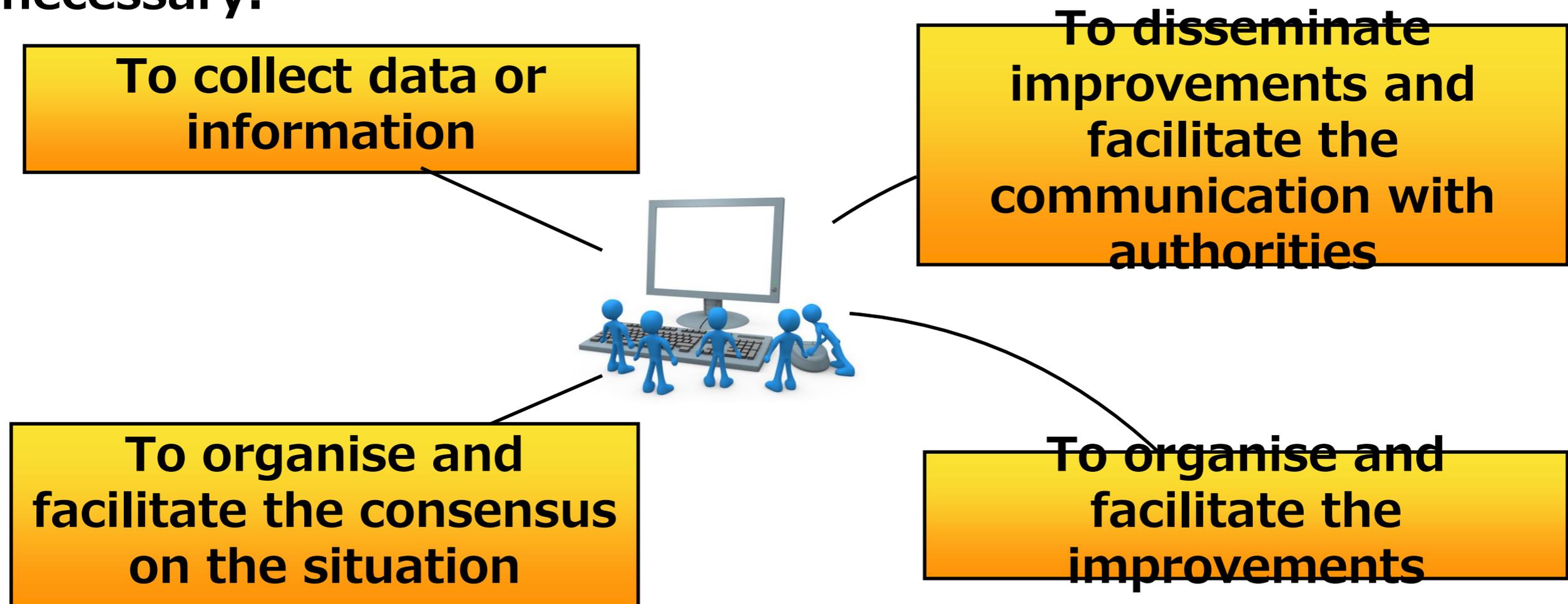**Observatory provides materials to improve building policy.**

Level for requirement

Risk analysis

ESSENTIAL REQUIREMENTS

BUILDING SECTOR PRODUCTION

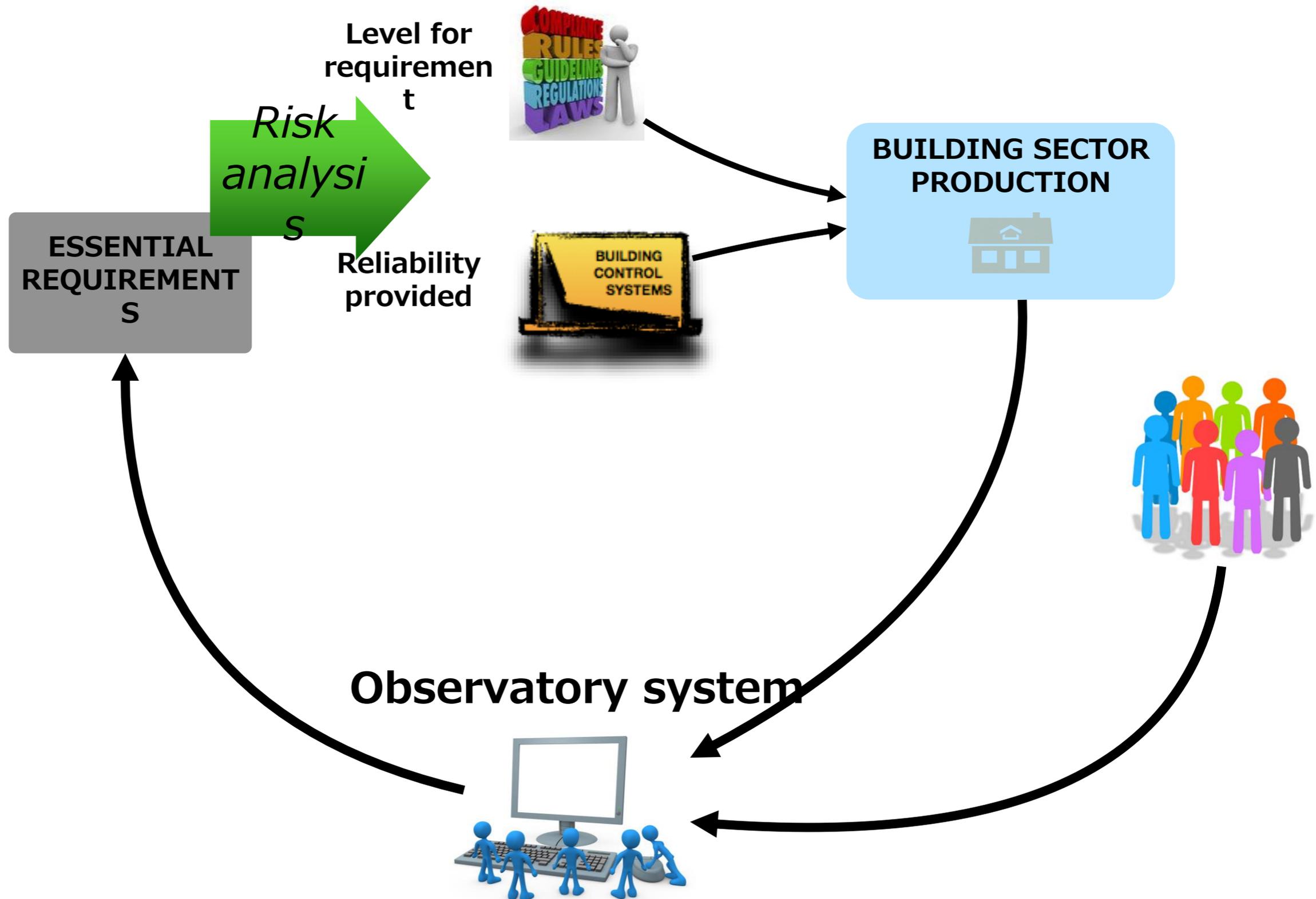Reliability provided

Observatory system

Observatory organisation

The observatory must involve all the stakeholders (regulator, policy maker, designer, contractor, people involved in building control, insurer, technical expert, owner and investor, and the last but not the least the population).

The observatory staff must be neutral and respectful to people in order to facilitate the consensus making which is necessary.

To collect data or information

To disseminate improvements and facilitate the communication with authorities

To organise and facilitate the consensus on the situation

To organise and facilitate the improvements

The general framework …

Level for requirement

Risk analysis

Reliability provided

ESSENTIAL REQUIREMENTS

COMPLIANCE RULES GUIDELINES REGULATIONS LAWS

BUILDING CONTROL SYSTEMS

BUILDING SECTOR PRODUCTION

Observatory system

... and a continuous review to reach more efficiency !

Improvement of the framework is related to the frequent review.

These reviews added to experimentation schemes using the same device allow to :

Reduce uncontrolled variability of results	Successfully respond to changes in the environment
Be more attractive for investor	Increase confidence of population and stakeholders
Reduce cost of construction	Increase profitability and productivity of the stakeholders

French Observatory(AQC) Organisation

AQC — Agence Qualité Construction

Prévenir les désordres améliorer la qualité de la construction

MEMBERS

- Building control
- Contractor (Small to large companies)
- Architect
- Designer (Small to large companies)
- Building product industry
- Owner, investor (public and private)
- Insurance companies
- Expert related to insurance and/or to legal suit
- Public authorities (National level)
- Certification body

All construction actors
Public and private

Board of Directors and President

To vote for board of Directors

To approve the strategic axis, statutes and bylaws, account

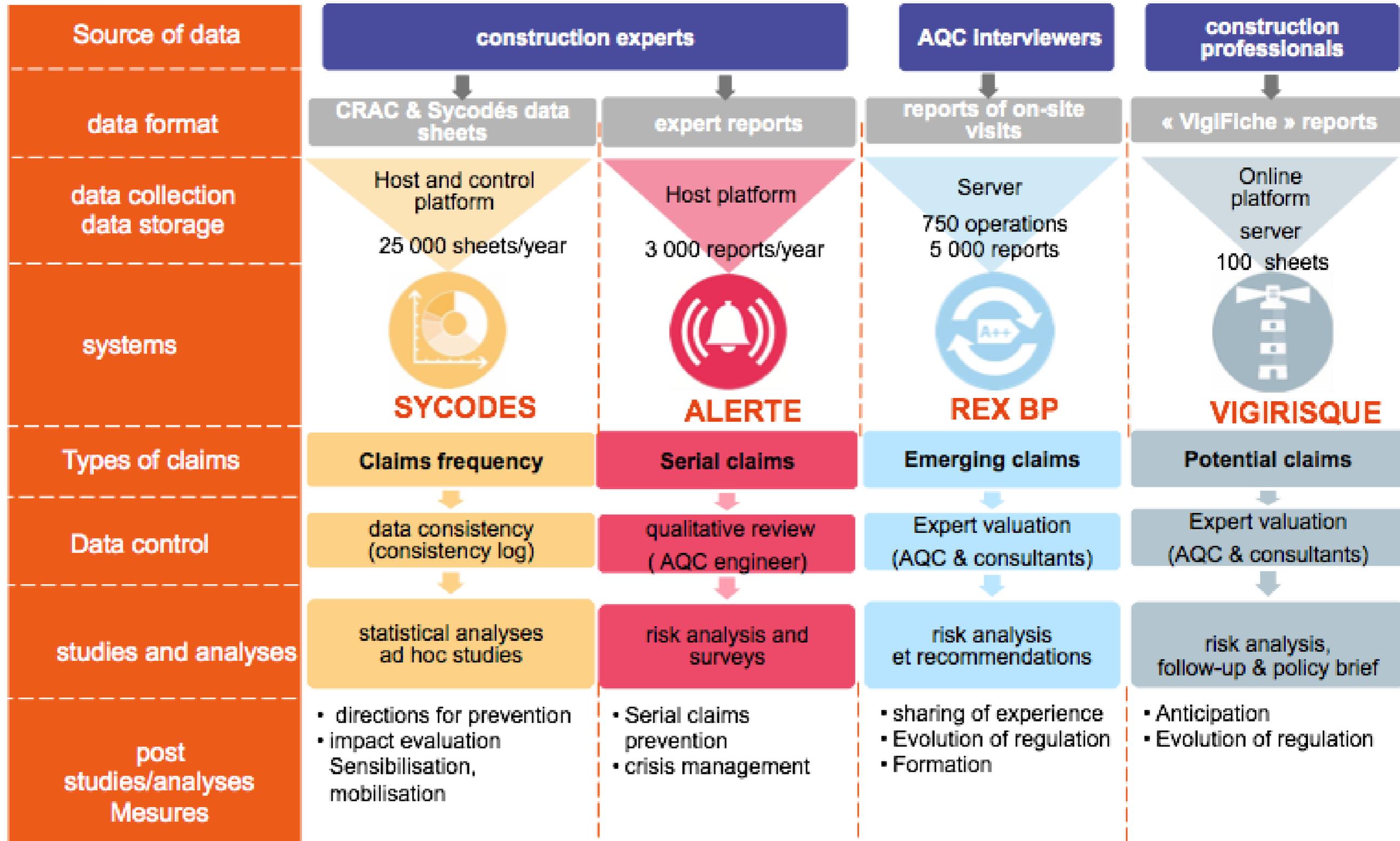To vote for president, vice president and treasurer
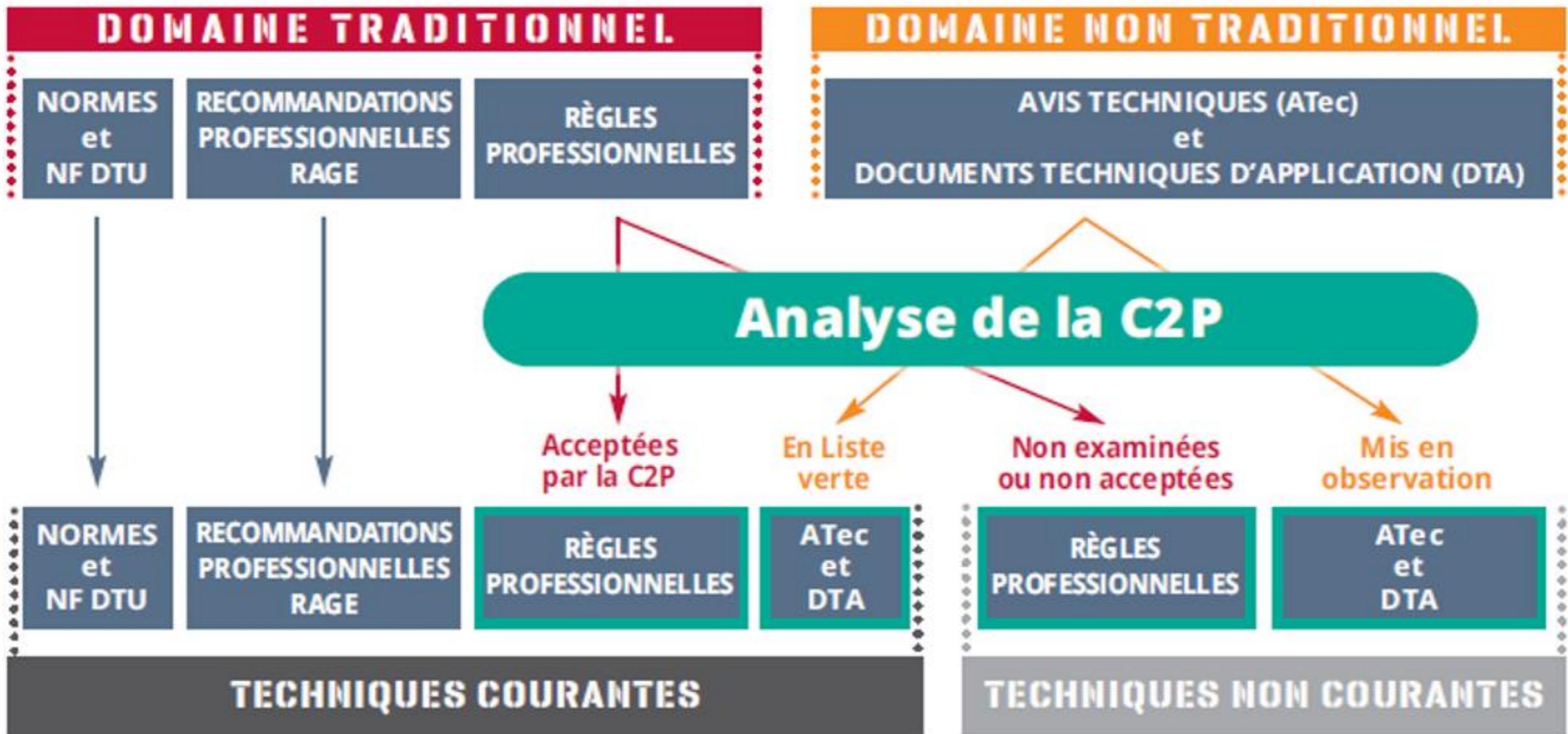
AQC CEO and Employees

To provide expertise and ressources for AQC activities

French Observatory(AQC) Data collection systems

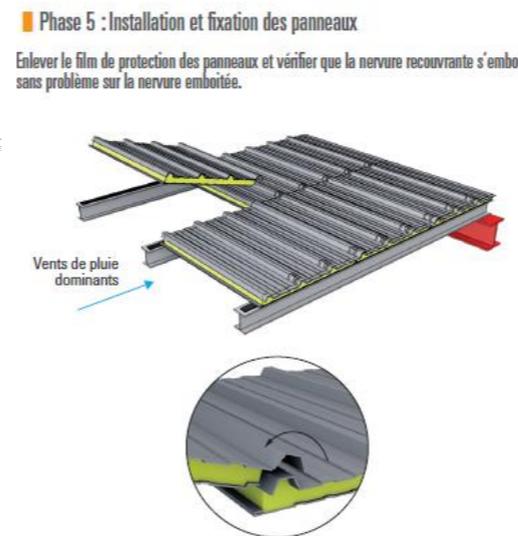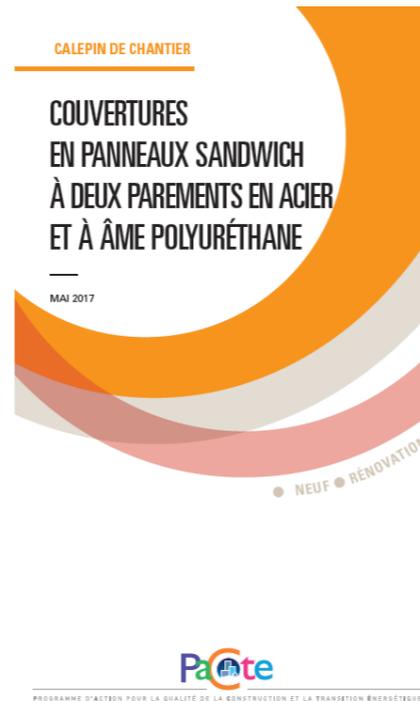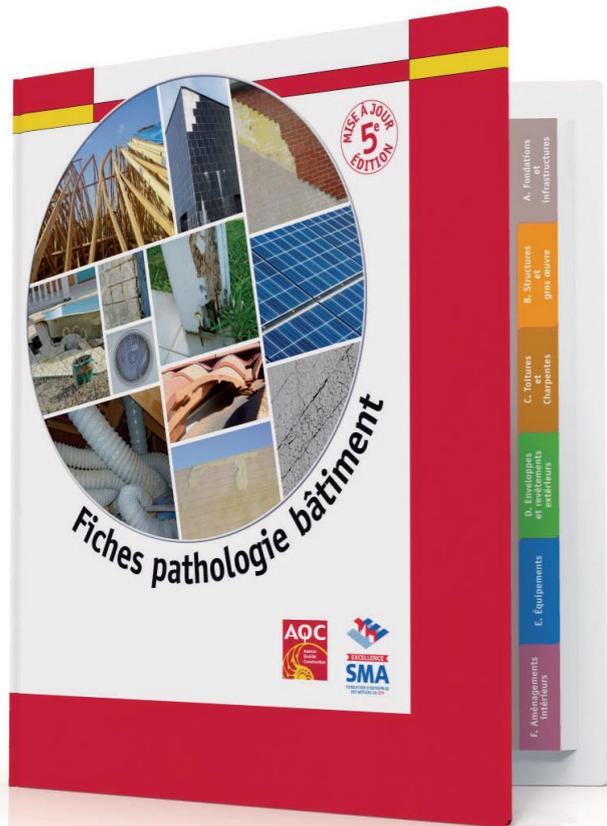Prévenir les désordres améliorer la qualité de la construction

	SYCODES	ALERTE	REX BP	VIGIRISQUE
Source of data	construction experts	construction experts	AQC interviewers	construction professionals
data format	CRAC & Sycodés data sheets	expert reports	reports of on-site visits	« VigiFiche » reports
data collection data storage	Host and control platform 25 000 sheets/year	Host platform 3 000 reports/year	Server 750 operations 5 000 reports	Online platform server 100 sheets
systems	SYCODES	ALERTE	REX BP	VIGIRISQUE
Types of claims	Claims frequency	Serial claims	Emerging claims	Potential claims
Data control	data consistency (consistency log)	qualitative review (AQC engineer)	Expert valuation (AQC & consultants)	Expert valuation (AQC & consultants)
studies and analyses	statistical analyses ad hoc studies	risk analysis and surveys	risk analysis et recommendations	risk analysis, follow-up & policy brief
post studies/analyses Mesures	• directions for prevention • impact evaluation Sensibilisation, mobilisation	• Serial claims prevention • crisis management	• sharing of experience • Evolution of regulation • Formation	• Anticipation • Evolution of regulation

French Observatory(AQC) Risk analysis

French Observatory(AQC)
Sample of production

Building control system's tools

A focus on construction production ...

Level for requirement

Risk analysis

Reliability provided

COMPLIANCE
RULES
GUIDELINES
REGULATIONS
LAWS

BUILDING
CONTROL
SYSTEMS

ESSENTIAL REQUIREMENTS

BUILDING SECTOR PRODUCTION

Observatory system

... building processus

In order to define the key factors leading to defect on building, we modelise the main processus .

Toolbox for internal control

1- To evaluate the effectiveness and efficiency of the company's internal control on major risk level of the building

2- To double-check drawings and calculation during the design phase and do the internal control on site

INTERNAL CONTROL

Internal control is a major element in the control of production because it makes it possible to compensate for the failures (human error, lack of delivery, etc.) that may occur during the cycle of construction and, moreover, a more performant risk management in case of modification of the project.

- High level of confidence and credibility

- Can be relatively cheap for tool N°1

- Enables the development of the practice for the entire sector (including where control is not mandatory)

- Requires the development of new skills and learning

- Few high cost (tool N ° 2) and in this case a lack of skill growth

- The formalization of self-control must be the most adapted to the modes of operation of the construction sector (little writing, logic of action rather than proaction)

Toolbox for skill

1- To assess individual competencies

2- To assess the ability of the company to maintain the competence of its employees at the required level

SKILL

The management of skills is often a point of failure and especially with the development of new products or constructive principles.
The particularity of competences in the construction sector lies in a complete competence relating to knowledge, know-how, "gesture" as well as experience.

- **Good level of confidence and credibility**

- **Enable to adapt in case of innovation**

- **High cost for Tool # 1**

- **Can lead to limited resources and consequently reduce market capacity as well as the number of competitors**

- **Must be done with a suitable frequency**

Toolbox for product

1 - Check the expected characteristics

2 - Evaluating the reliability of production

PRODUCT

The significant development of construction products (with strong innovation in terms of issues) as well as widespread commercialization into ever larger geographic territories, is an opportunity for the construction sector and at the same time a risk increased.

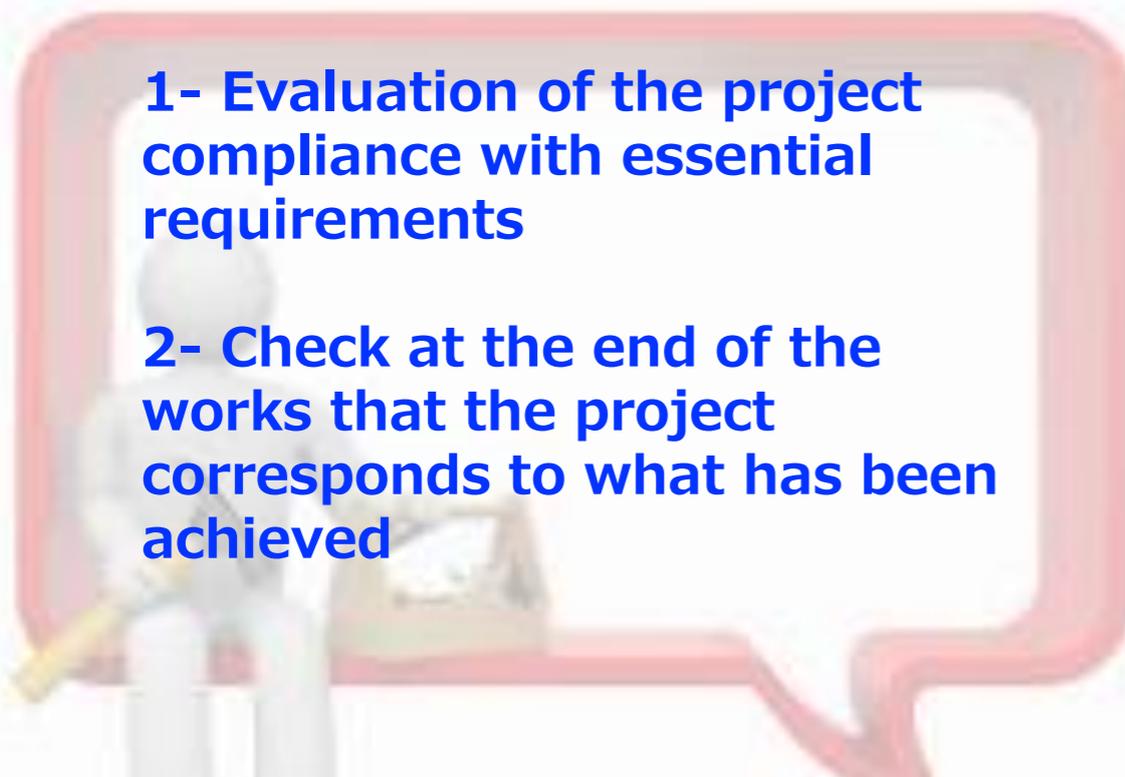- **Regular level of confidence and credibility for Tool n°1**

- **Enable to promote innovation**

- **High investment that may be a barrier for small companies**

- **Can lead to limited resources and consequently reduce market capacity as well as the number of competitors**

- **The testing procedures must be adapted to the real use**

Toolbox for compliance

1- Evaluation of the project compliance with essential requirements

2- Check at the end of the works that the project corresponds to what has been achieved

COMPLIANCE

This area generally concerns limited areas and consists of evaluating the client's commitments in areas such as town planning, landscapes, the protection of the historical heritage as well as safety aspects of development (road risk) or links with Networks.
This is essential insofar as all the rules are not defined or are locally defined.

- **Good level of confidence and credibility for Tool n°1**

- **Regular level for tool n°2**

- **Insecurity relating to the absence of a known reference frame or a position of free will**

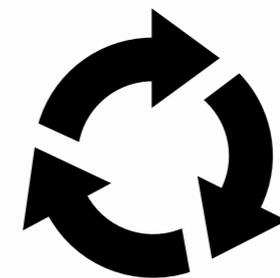- **Cost not very transparent because often taken care of by the community**

Summary

To organize Observatory system

To choose the tools for reliability

To define the requirements and reliability

To improve permanently the systems

Thank you for your attention