

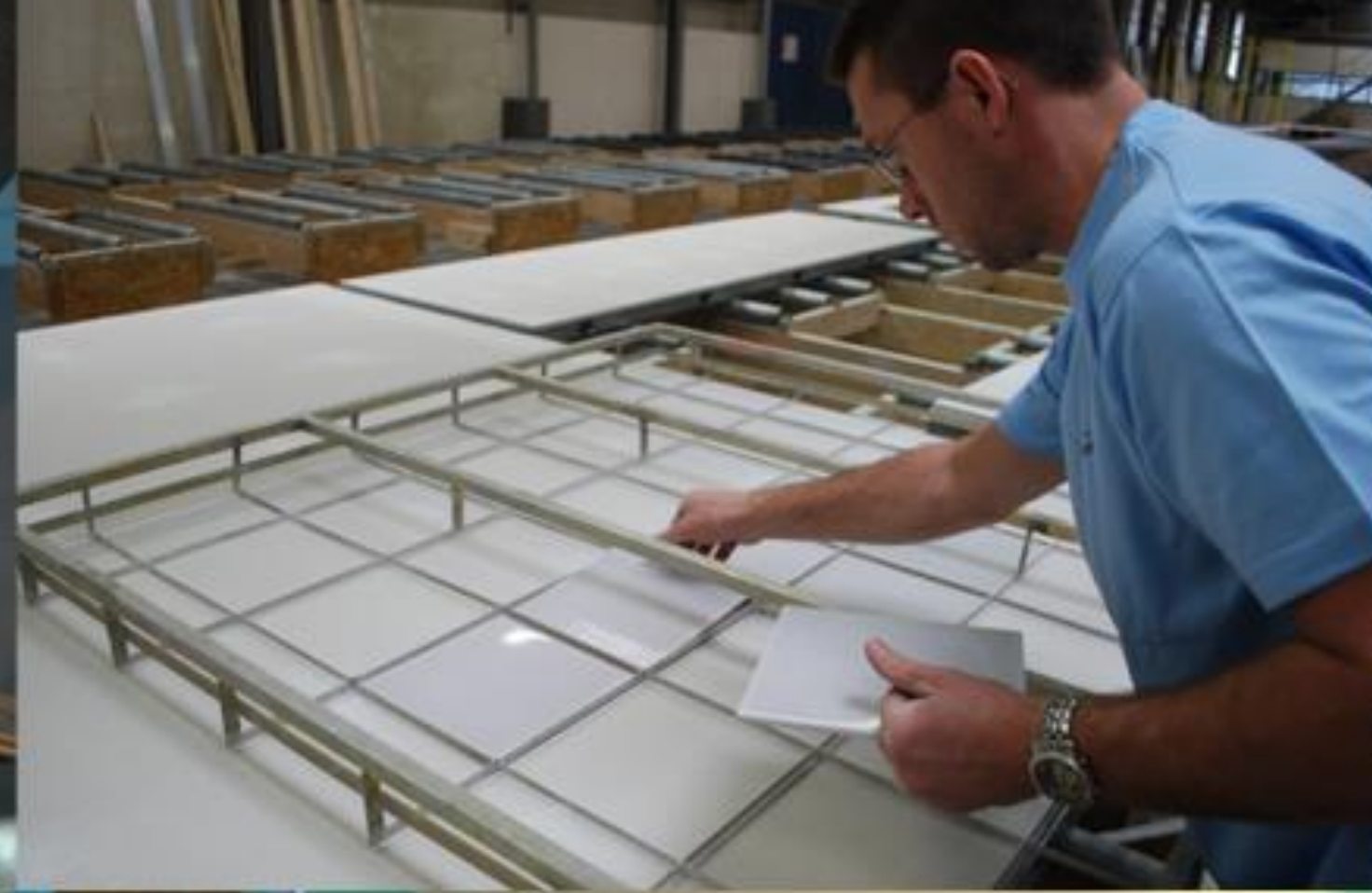
Buildoffsite - London - June 19th - 2019

Offsite and Timbre Building in FRANCE

Pascal CHAZAL

HORS-SITE





Prefab- Pods

Bathrooms

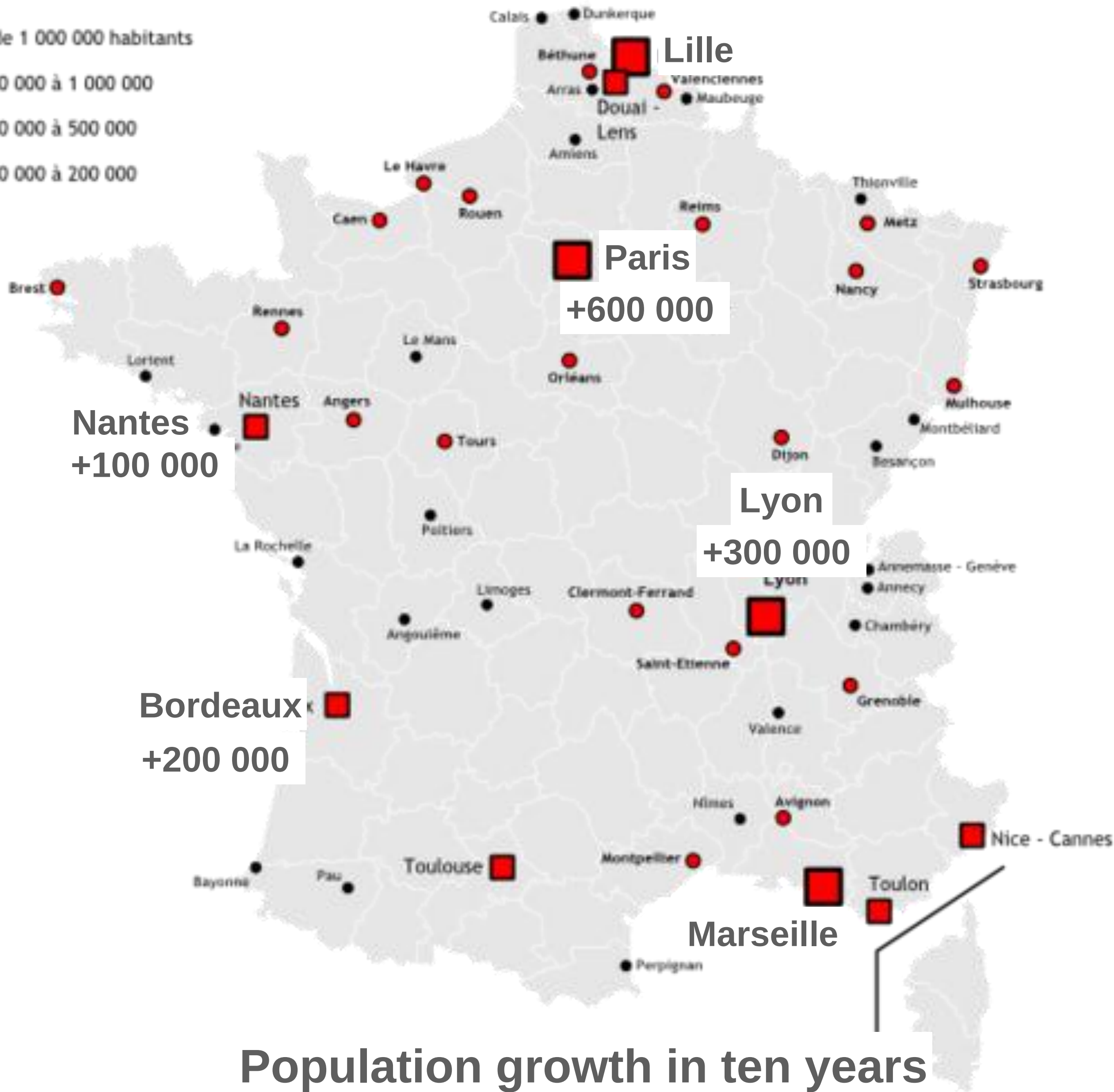
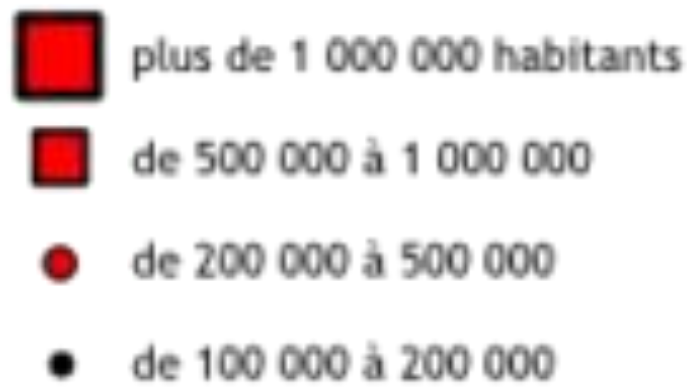
2007 Pascal Chazal founded Aqua-Logis :
10 000 Pods produced in 10 years.

SUMMARY

- French market for Building
- Timber in building industry
- Off site Building
- The opportunity for Estonian companies

Principales agglomérations
françaises

Population 2006 - Source INSEE



France :

- 67 Million inhabitants
- 36 Million Homes
- Every year : 450 000 Inhabitants more
- Towns are growing fast
- 10 million people living in poor housing
- Needs : 450 to 500 000 houses every year
- Enormous rehabilitation needs

SUMMARY

- French market for Building
- Timber in building industry
- Off site Building
- The opportunity for Estonian companies

Amazing high demand for wood !

- **ADIVBOIS**
- **Olympic games : SOLIDEO : 80 % Wood**
https://www.youtube.com/watch?v=Tee_D9ztJ8Y&feature=youtu.be
- **Bordeaux Euratlantique : 100 % Wood**
- **Grand Paris**
- **ENERGIESPRONG**





The French regulations for wood :

- Now wood is ok up to 28 meters
- 7 / 8 Stories
- Loi ELAN
- Loi ESSOC

Population growth and rapid urbanization.



10 Billion in 2050



80 % in town !

Taking the environment into account is no longer an option!

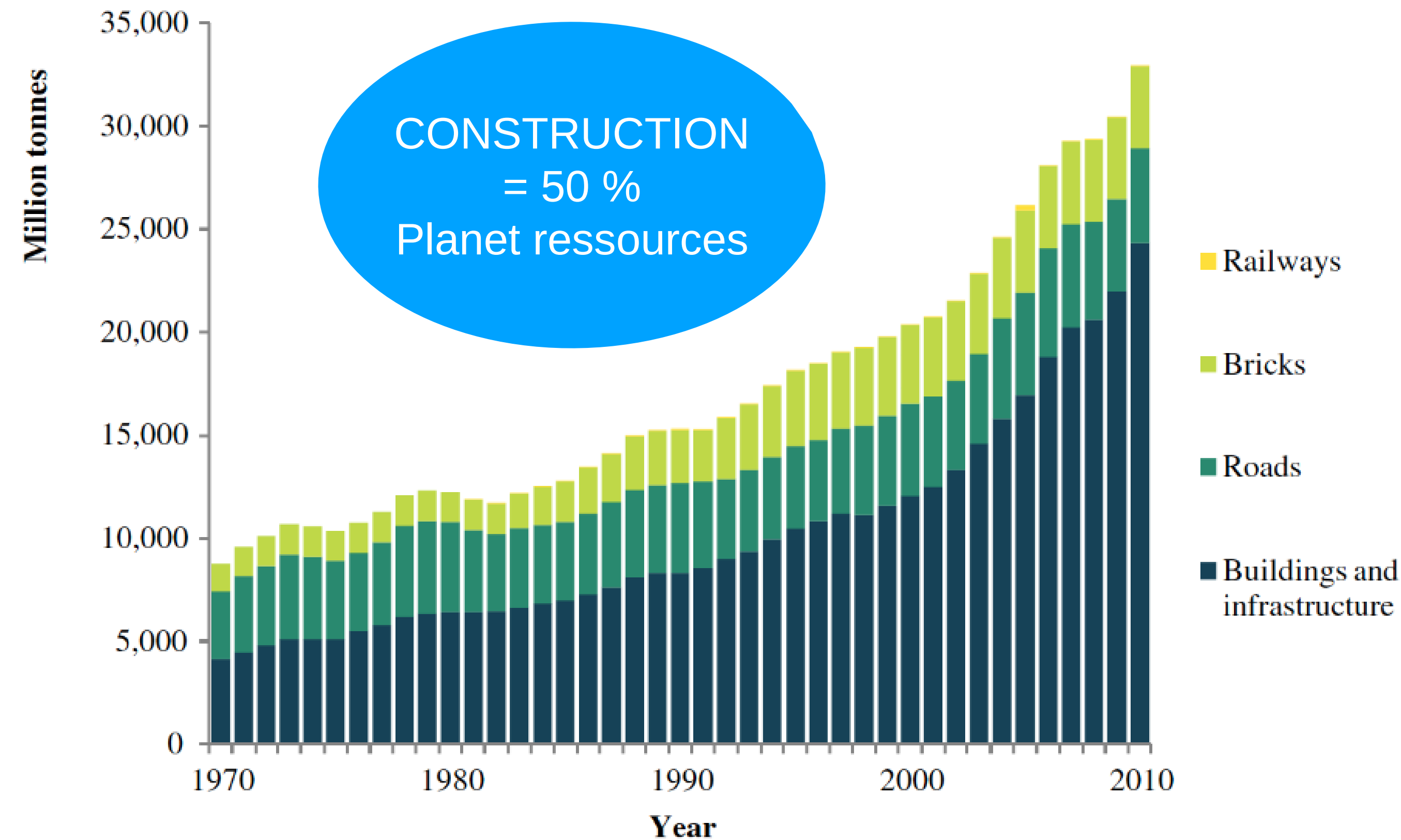


Concrete has transformed the world, now it threatens to destroy it!

Source : The Guardian février 2019 - <https://www.theguardian.com/cities/2019/feb/25/concrete-the-most-destructive-material-on-earth>



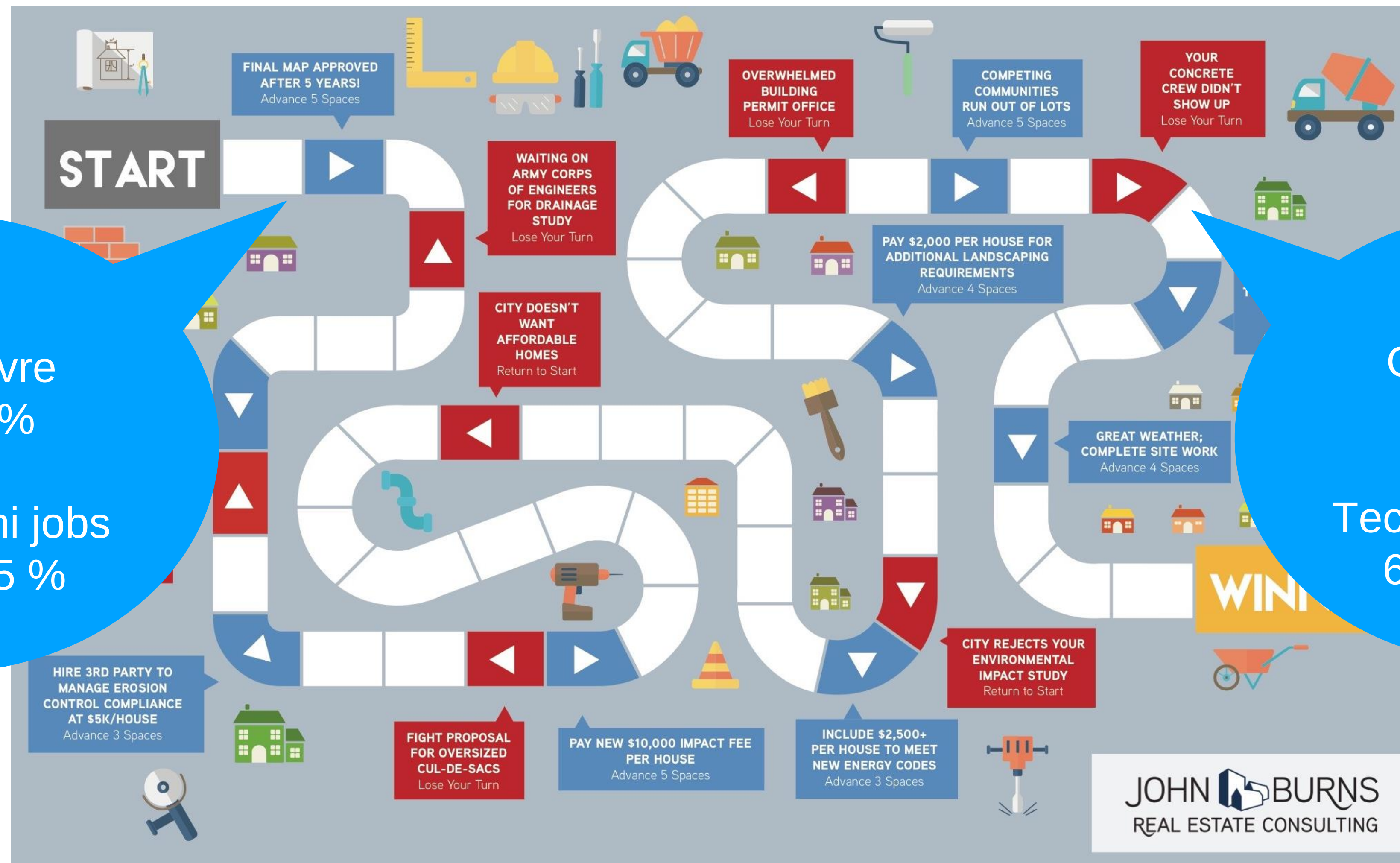
CONCRETE 8%
of emissions
of GGH !



Global extraction of nonmetallic minerals by sector of use, 1970–2010, million tonnes.

Since 2003, China has been using every two years
more cement than the United States during the 20th century

The Real Estate production chain has become inefficient.



Building has become very complex!

A global observation!



The result is final.



- **The claims rate is increasing**

Plus 75 % in 10 years

Source SMABTP

- **Delivery times are exploding**

4 to 5 month on average

Source UFC Que Choisir

- **Reservations at delivery also**

3 times more than 10 years ago

Source UFC Que Choisir

- **Prices are rising**

+ 7,5 % in 2018 in Paris

The causes ?

Real Estate / Construction

Maître d'ouvrage

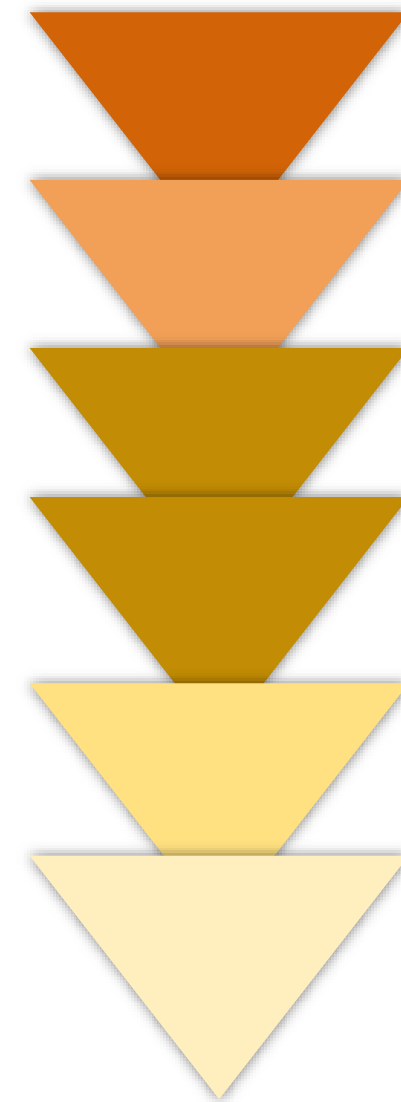
Maître d'oeuvre

Bureaux d'étude 1

Bureaux d'étude 2

Entreprise 1

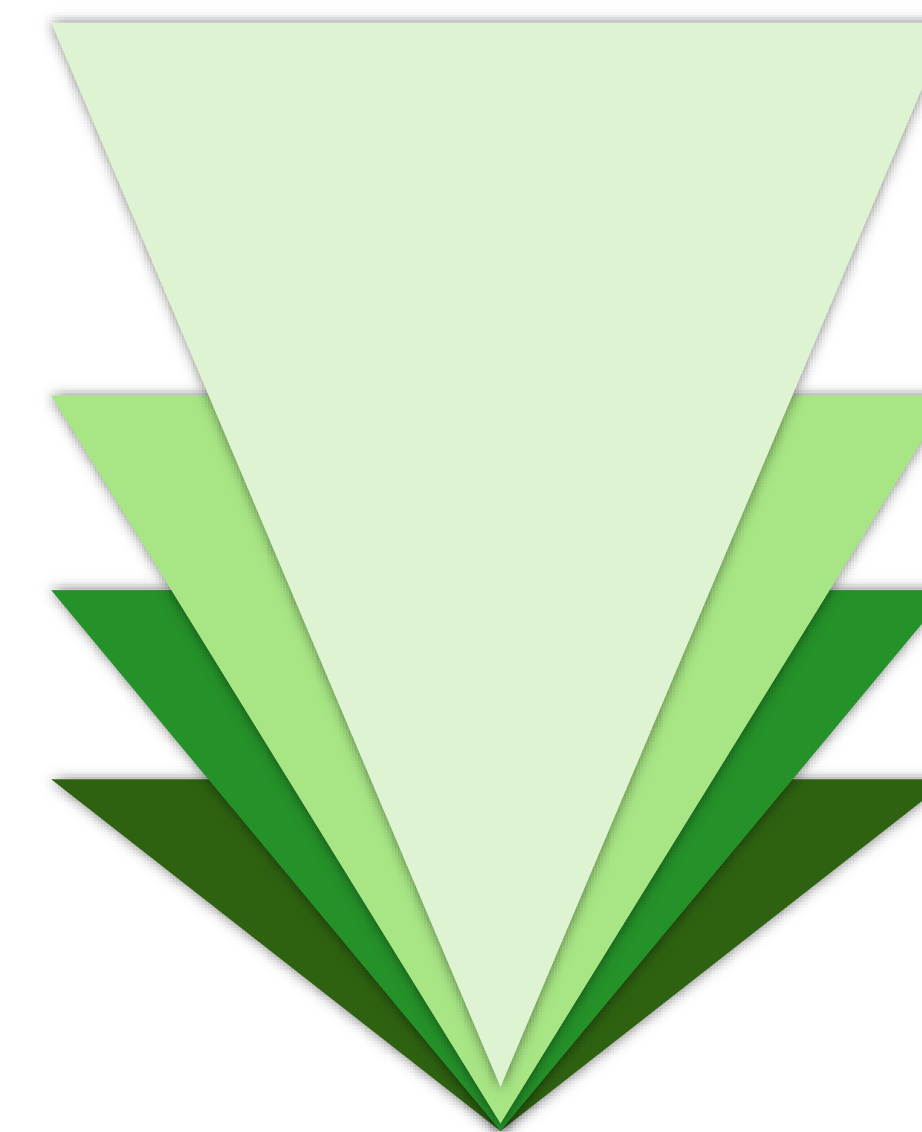
Entreprise 2



- **Fragmented Organizations**
- **A prototype for every building !**
 - => **No continuous improvement !**

Non-quality = 30 %

Industrie



- Collaborative organizations
- Standardization
- Continuous improvement

Non-quality < 1 %

**We are building today as we did in the 1980s,
when the buildings were simple and the skilled labour abundant!**

REAL ESTATE: No culture of building optimization

- 4 U

Chambre 1
- 2 U

Chambre 2
- 12 U

Chambre 3
- 5 U

Chambre 4
- 1 U

Chambre spécifique
- 2 U

Chambre spécifique
- 2 U

Chambre spécifique
- 3 U

Chambre spécifique
- 1 U

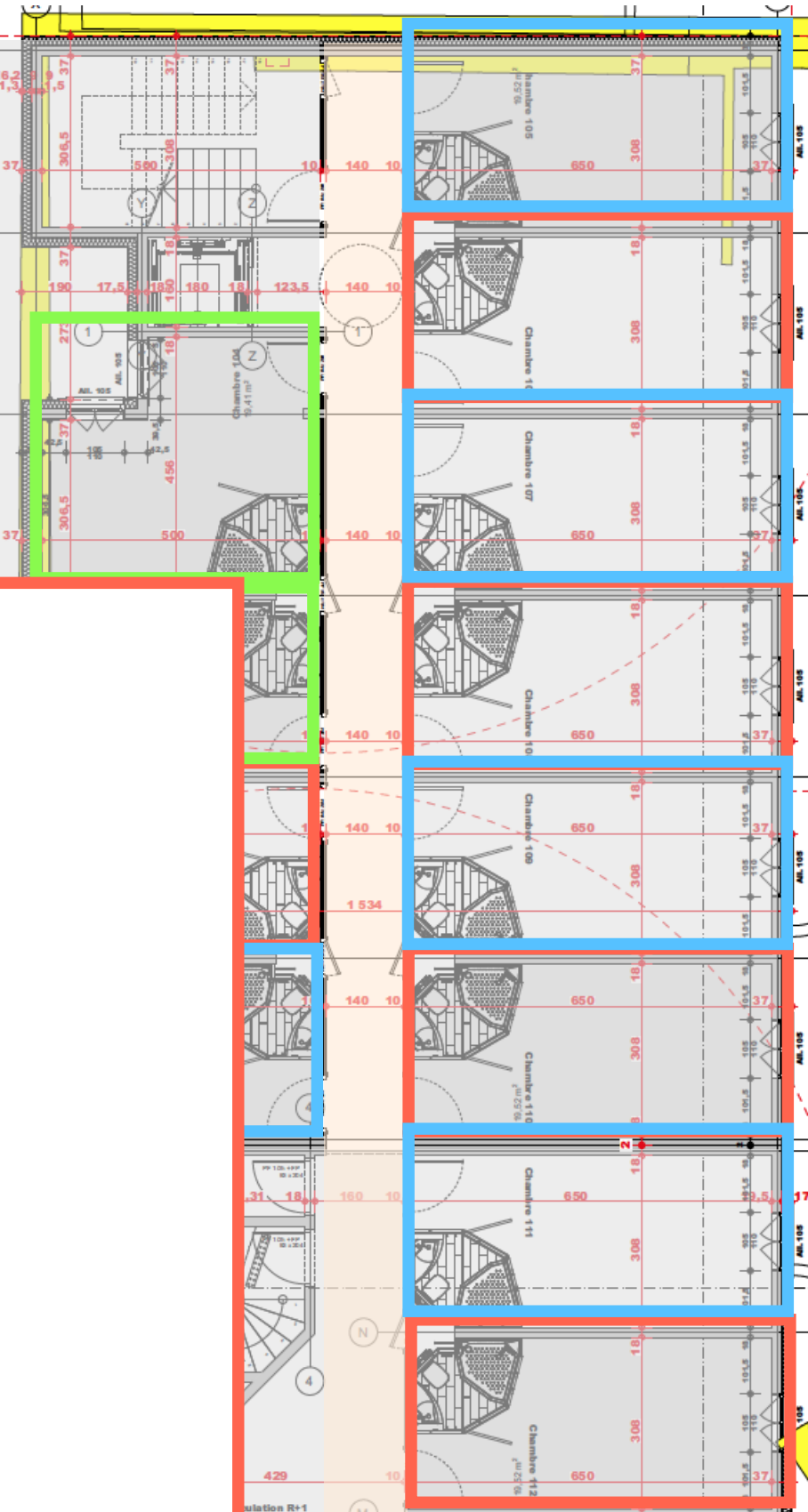
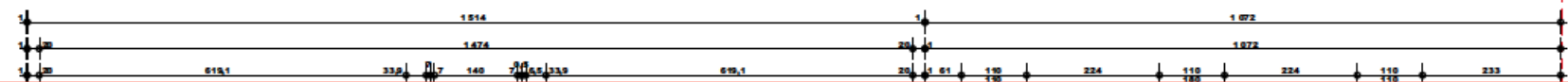
Chambre spécifique
- 2 U

Chambre spécifique
- 1 U

Chambre spécifiques
- 1 U

Chambre spécifiques

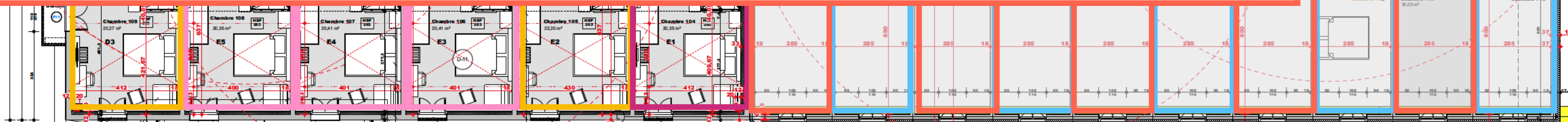
Famous Hotel Chain
2-star hotel
120 Bedrooms



What is the added value
to reinvent the wheel?

=> Pro

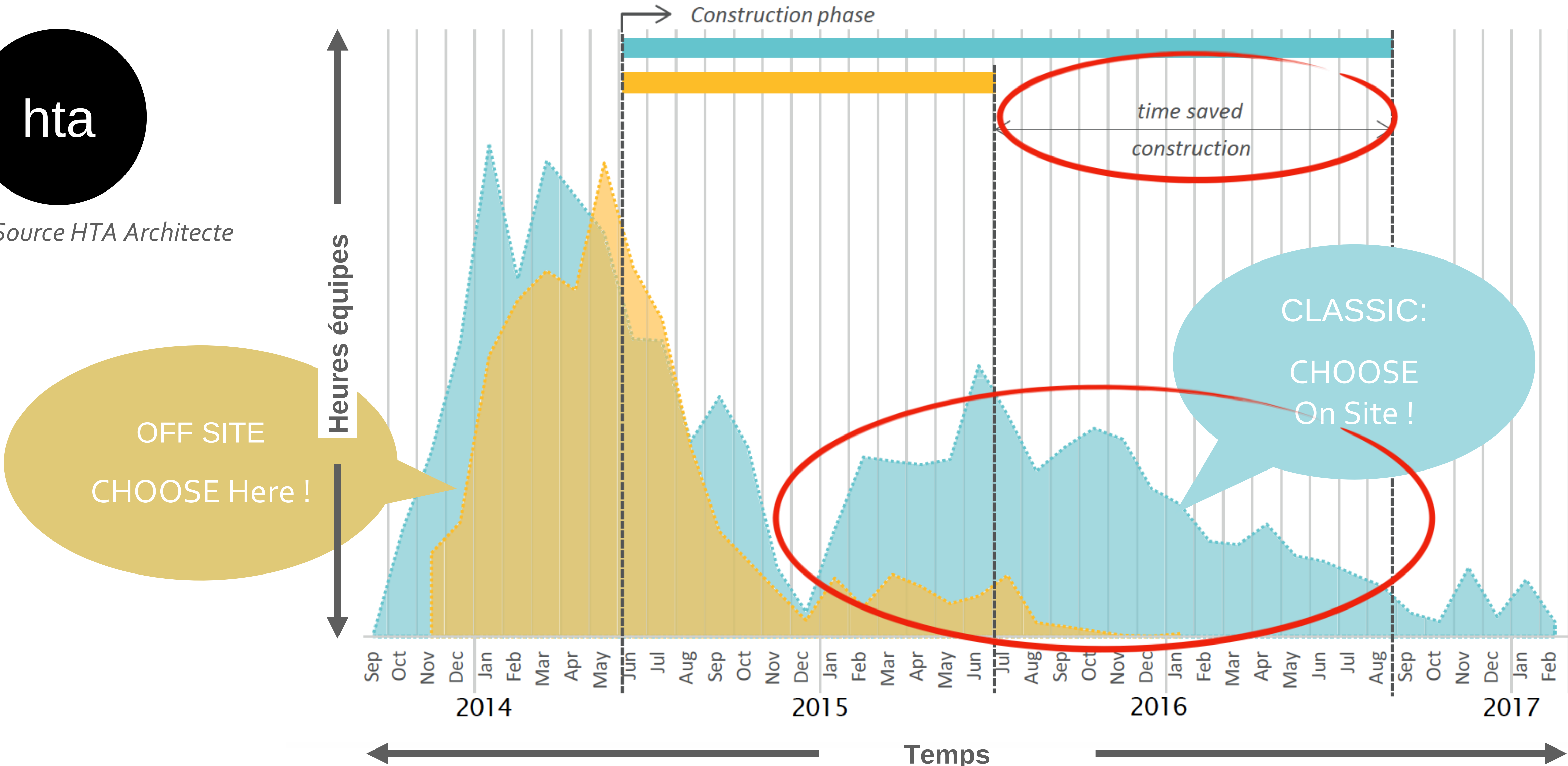
yone!



On Site CULTURE : We start the design twice over!



Source HTA Architecte



Compared to the automotive industry

1980



2018



10 salary

Efficiency
85 %



9 years
salary

Efficiency
< 20%



SUMMARY

- French market for Building
- Timber in building industry
- Off site Building
- The opportunities for Off Site





P. BERCY: 32MN
P. ITALIE: 46MN

N302 600m

INFORMATIONS
PTE DE MONTREUIL
FERMETURES
24h / 24h
01 40 28 72 72

80

80

A construction site...
is a lot of van !

The benefits of off-site construction



Réduit
les délais



Améliore la
qualité



Optimise
les coûts



Améliore
les relations



Réduit
les déchets



Améliore
La sécurité

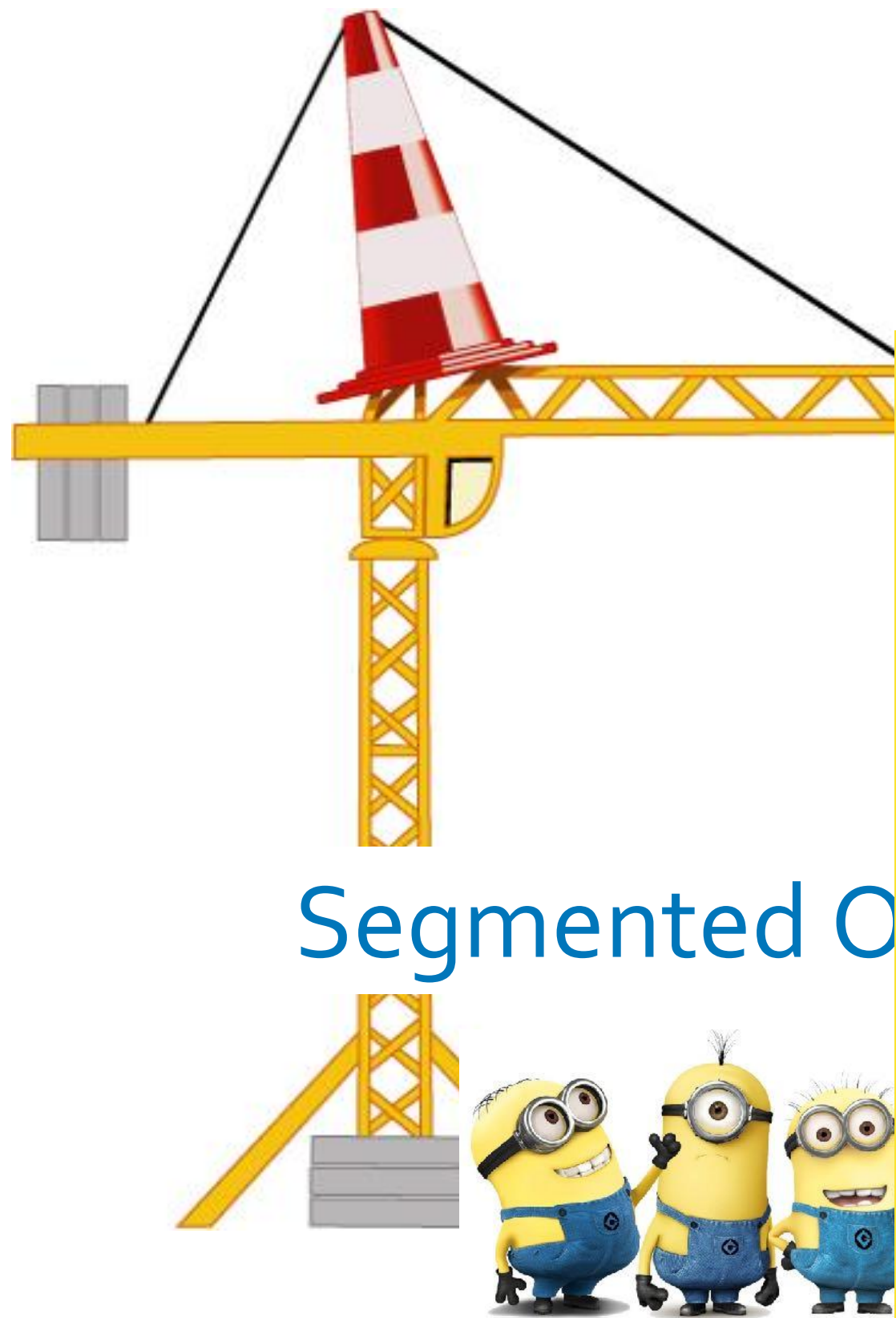
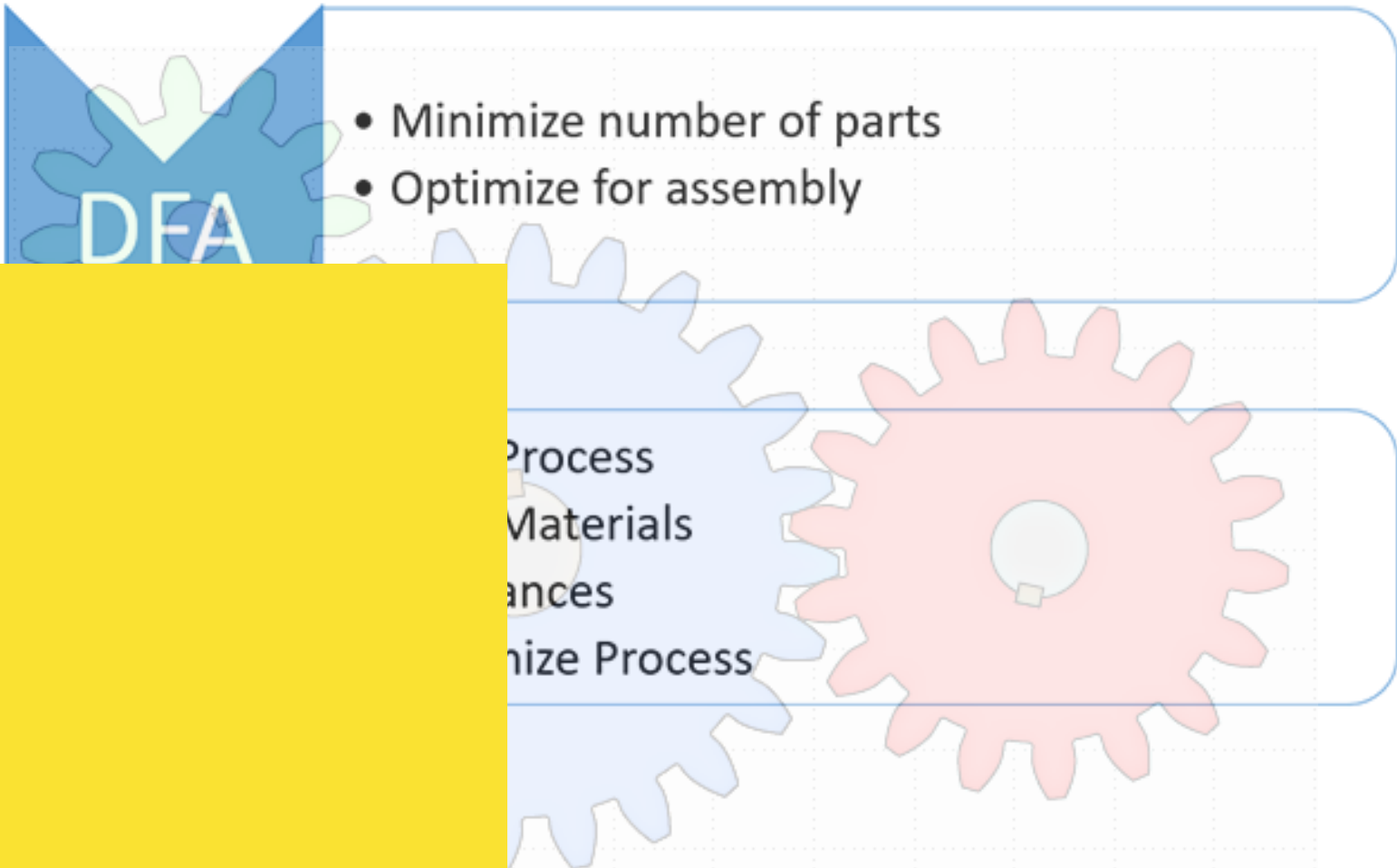
BUT... It's a new paradigm...

Culture On site

DfMA

Industrial Culture

DFMA Process



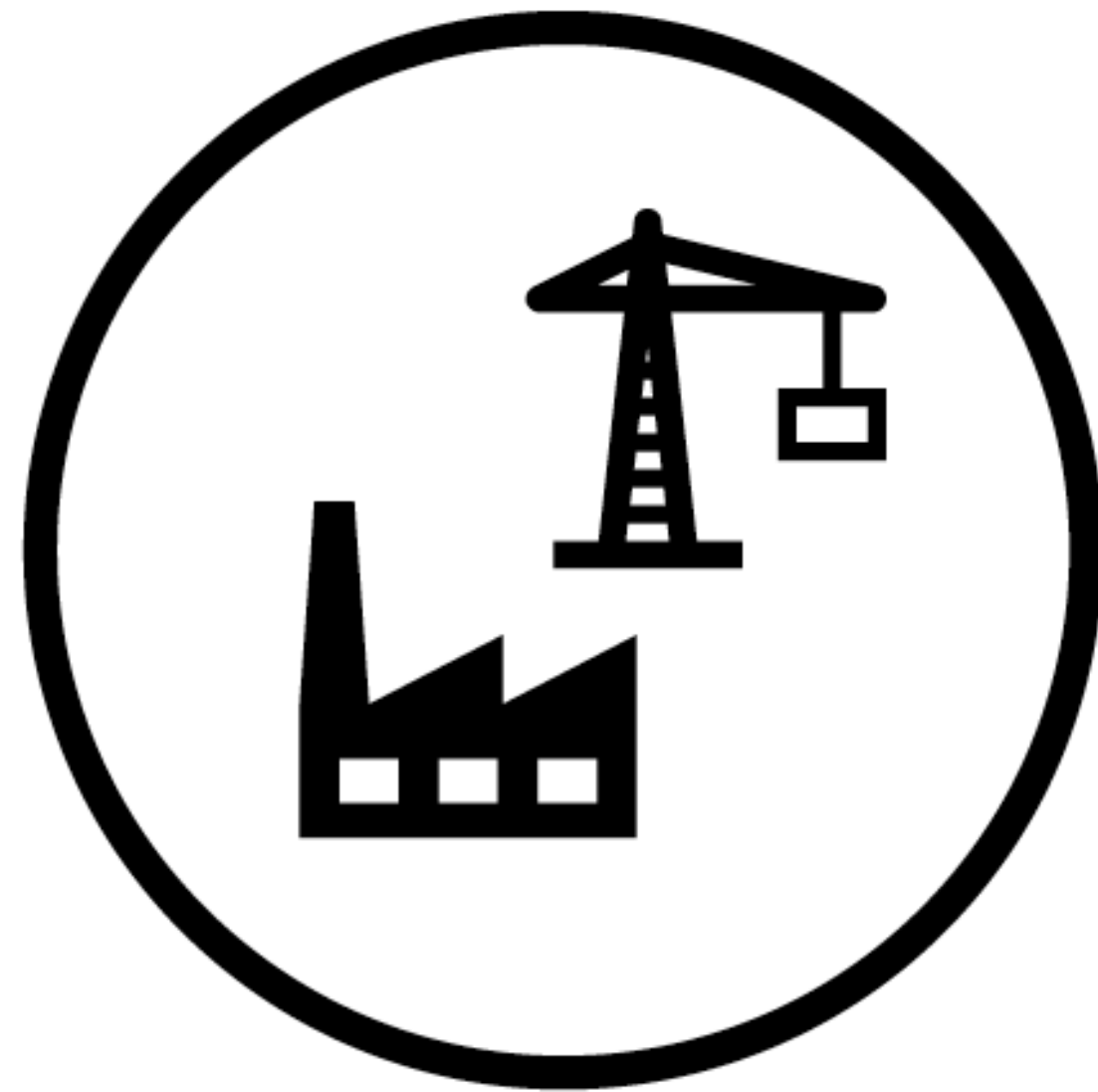
Segmented O

Design for
Manufacture
Assembly
& Disassembly

ive Organisations



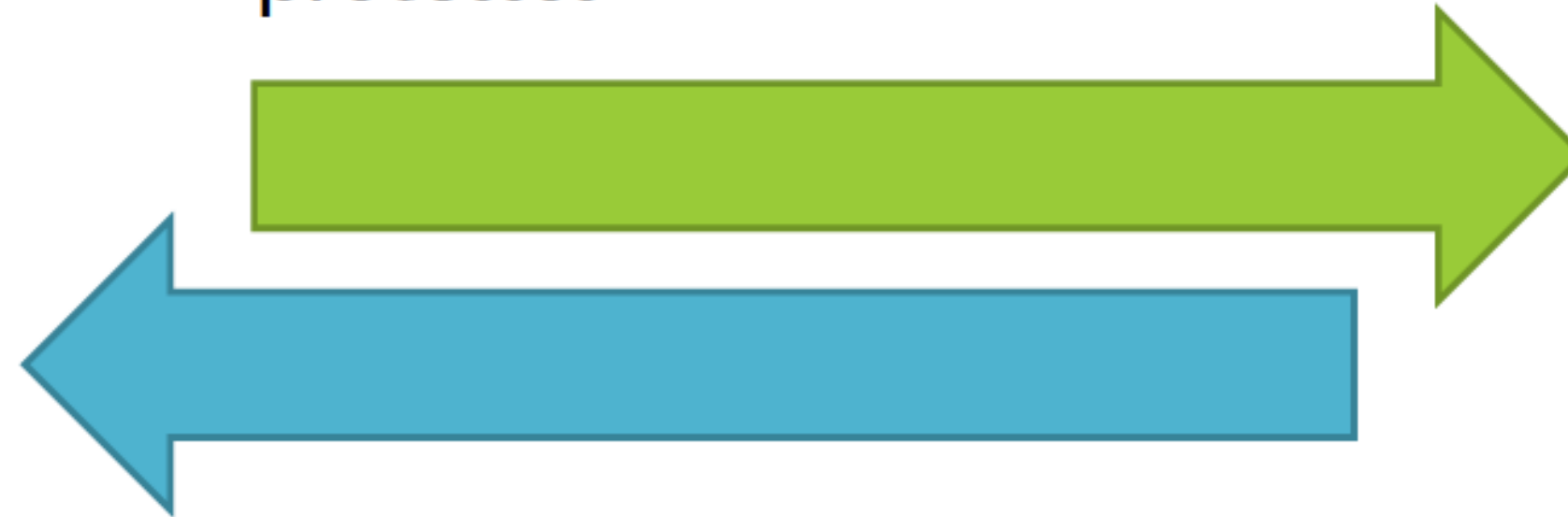
BIM and Off-Site: The Winning Couple



Hors-site

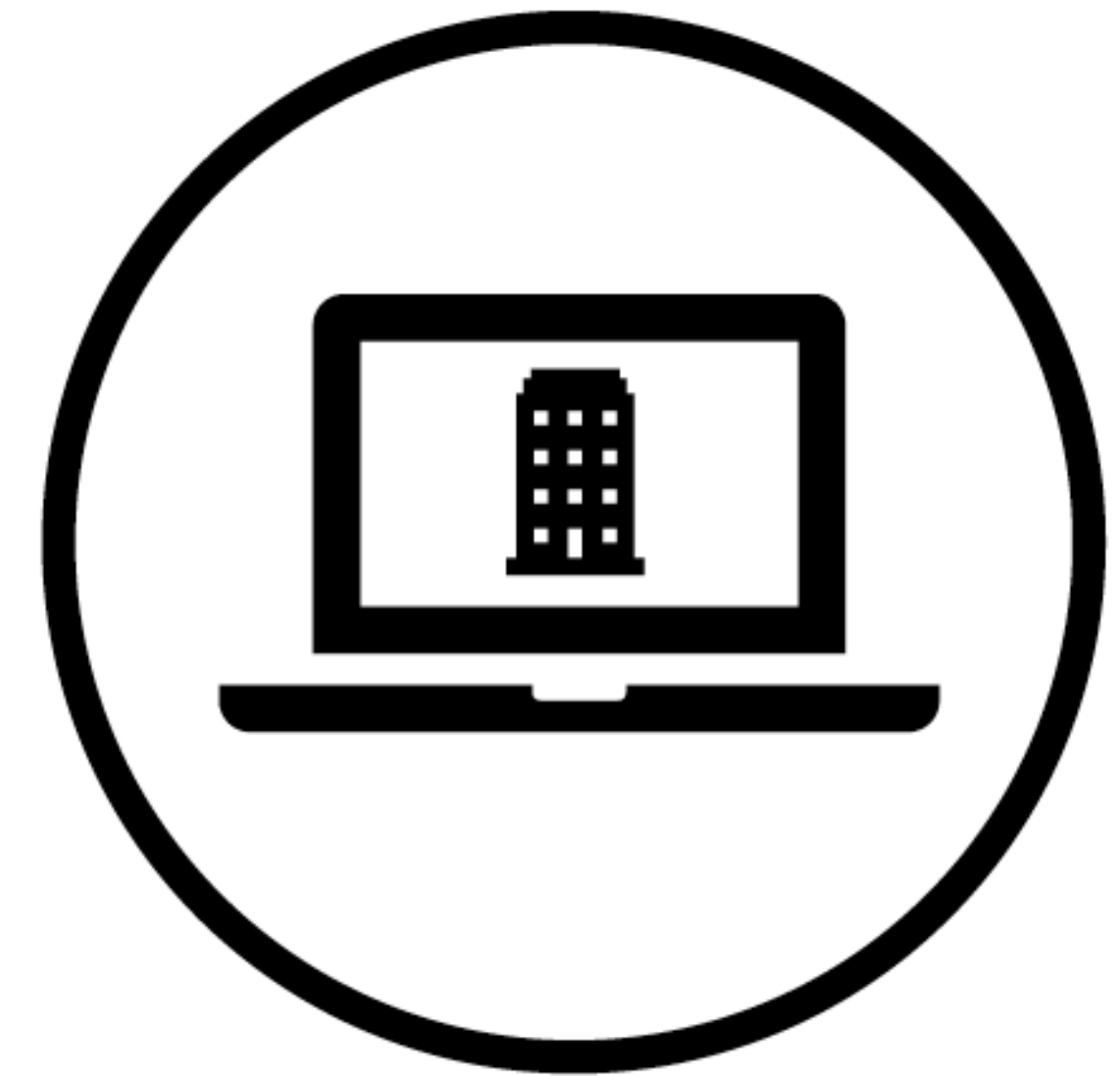


Des objets fiables et réels
Des données solides
Une grande simplification du processus



Une conception compatible
avec la production
industrielle

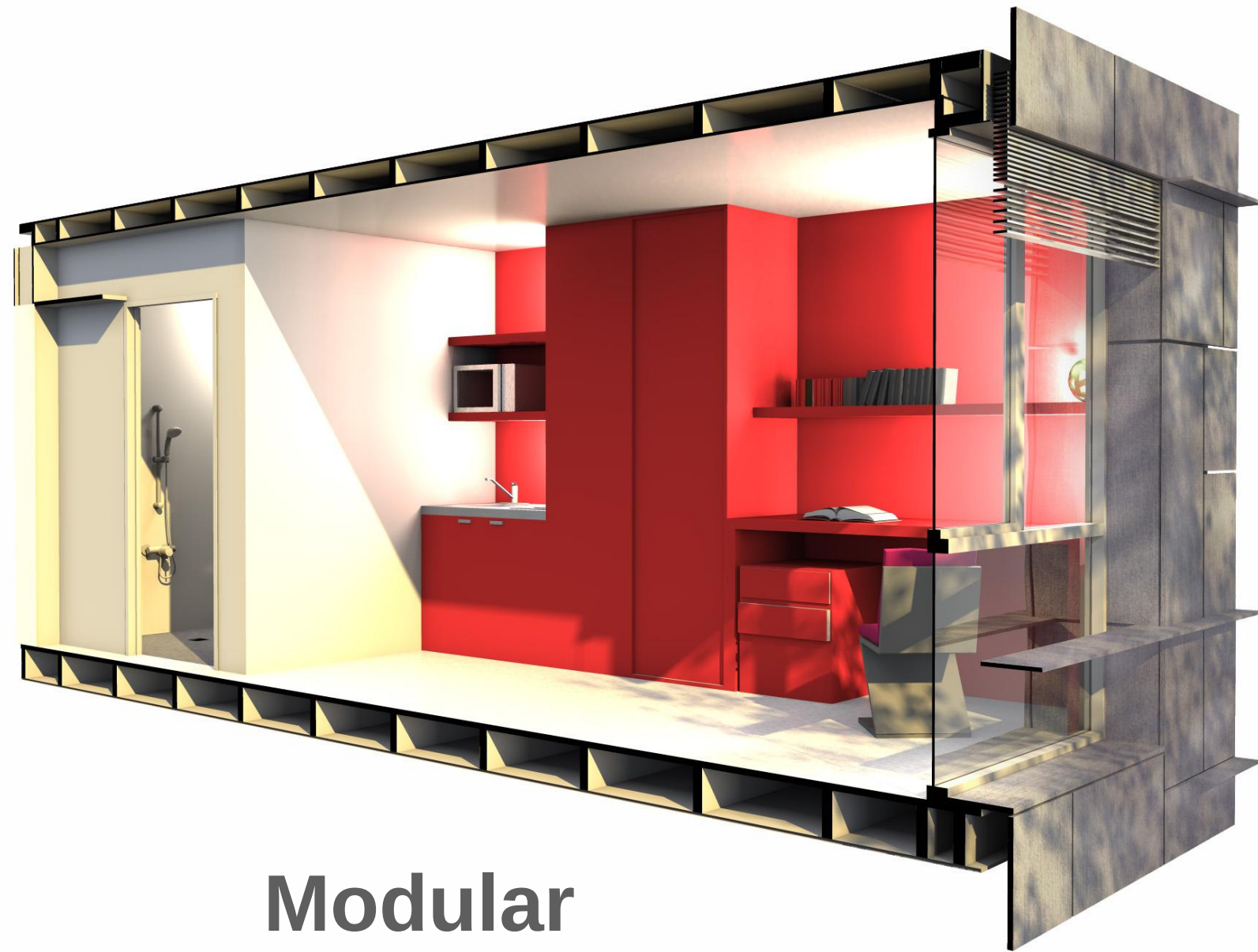
Des outils d'analyse et de
quantification avancées
Une planification optimale



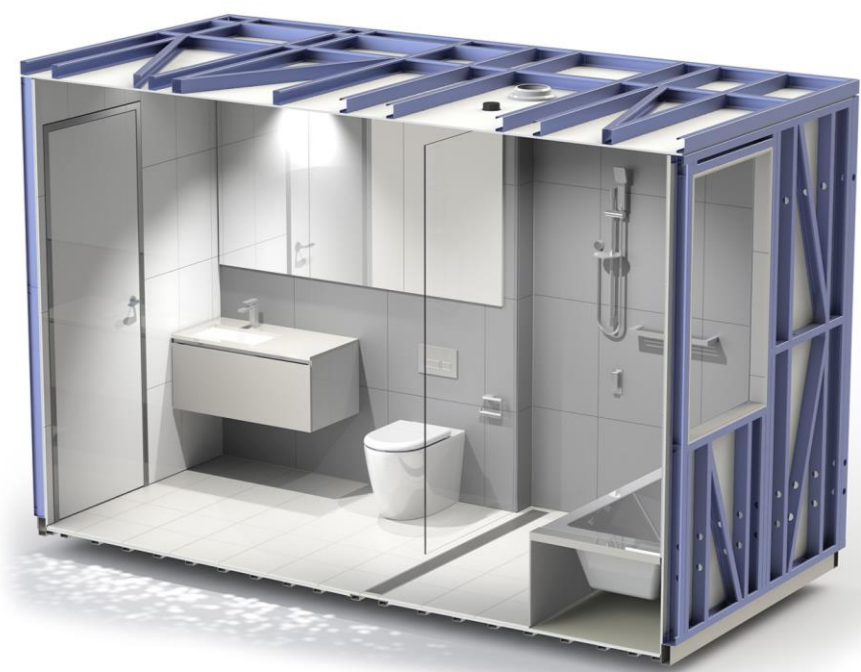
BIM



There is a demand for :



Modular



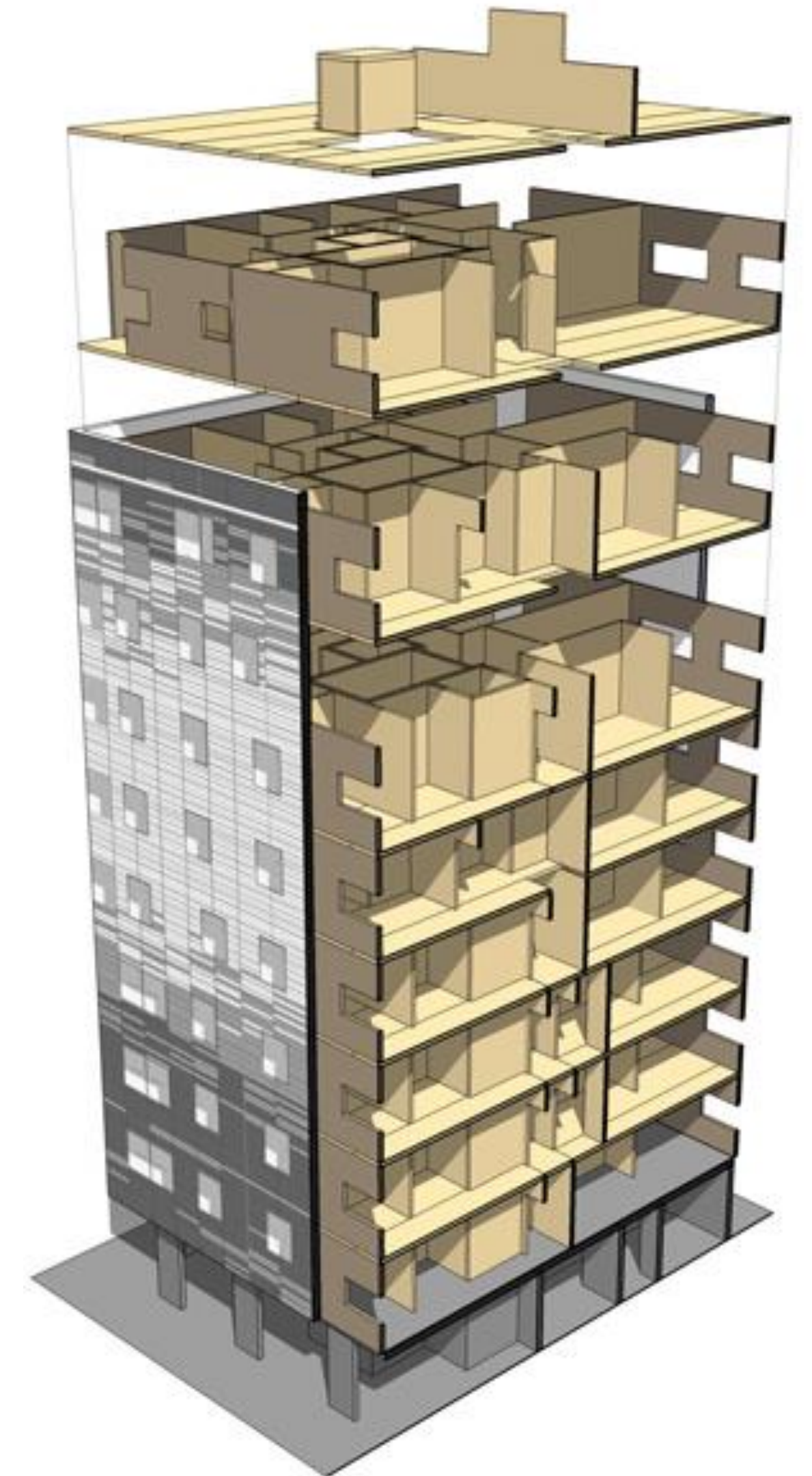
PODS



Timber frame for houses



Timber frame for apartments



High rise building

There is a demand for : Rehab



**Energie
Sprong**

From an old to a zero energy house in a few days !



Student residences



Collège de Clisson (Dhomino)

Schools...



BATIMAT 2019



HORS SITE on BATIMAT 2019

BATiMAT PARC DES EXPOSITIONS
PARIS NORD
VILLEPINTE
Connecte les pros à l'innovation **04-08 NOV 2019**



BATIMAT en chiffres



274 053 VISITEURS

âgés de **41 à 59 ans**

196 (11%)

Exposants aménagement
intérieur et extérieur

335 (19%)

Exposants matériel
de chantier et outillage

137 (8%)

Exposants numérique et
nouvelles technologies

87 (5%)

Exposants institutionnels
et services

533 (30%)

Exposants enveloppe
et structure

490 (27%)

Exposants menuiserie
et fermeture

801 (45%)

Nouveaux exposants



OBJECTIFS DE VISITE

Les 3 principaux objectifs



Découvrir les innovations
et les nouveaux produits



Développer mon réseau
et échanger avec les
professionnels de mon secteur



Rencontrer des fournisseurs



LE SALON DE LA FILIÈRE

1 778 EXPOSANTS dont **1 037** internationaux

93 178 (34%)

Artisans/Installateurs/
Entrepreneurs
dont le TOP 6
des familles de métiers :

- **36%** Structure
et enveloppe
- **25%** Menuiseries
fermeture
- **17%** Second œuvre
- **13%** Second œuvre
technique
- **8%** Exploitation/
Maintenance
- **1%** Aménagement ext.



54 811 (20%)

Prescripteurs
dont :

37 271 Maîtres d'œuvres
17 540 Maîtres d'ouvrages

46 589 (17%)

Négociants/Distributeurs

43 848 (16%)

Fabricants

35 627 (13%)

Organismes & Services

78%
de visiteurs français
62% Régions
38% Ile de France

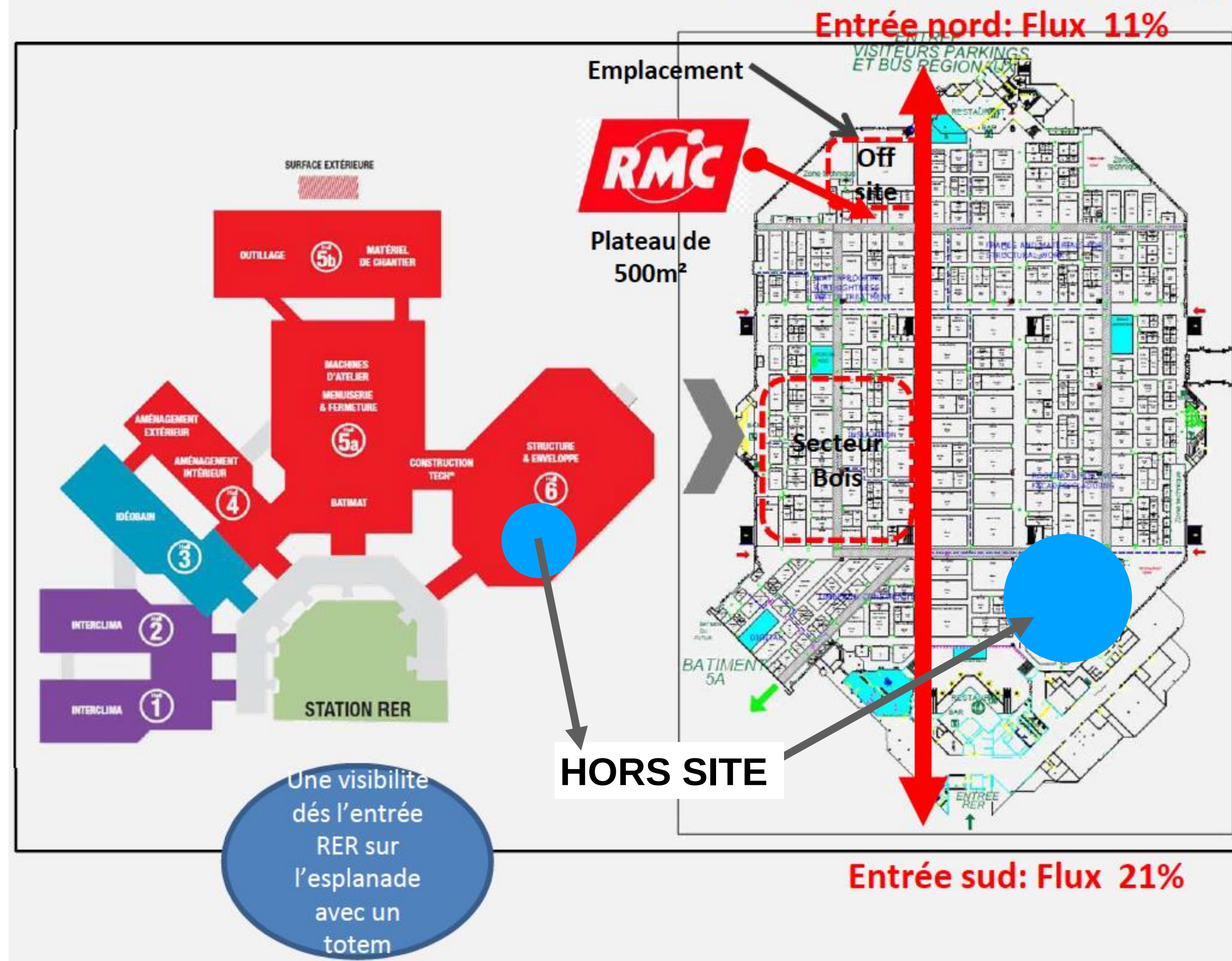
22%
de visiteurs
internationaux



Plan de Batimat

LE HORS SITE SUR BATIMAT REPRESENTE 1 000 m²

Plan du Hall 6, Structures et Enveloppe



HORS SITE on BATIMAT 2019

- 1,000 m2 exhibitors
- An International Symposium
- Events for 5 days
- Media before and after

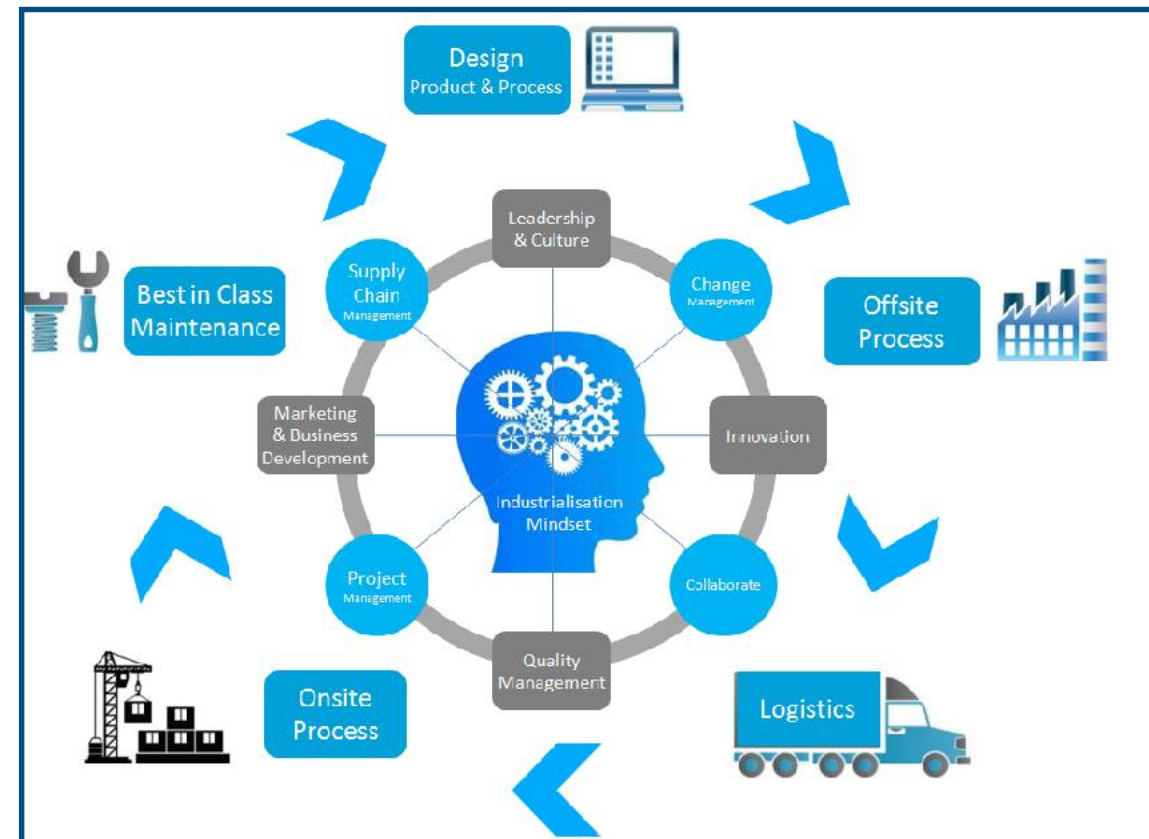
Media



Séminars

Events

Training



Former à la construction
Hors-site pour faire
évoluer les mentalités
L'Ecole Hors-site

E Learning

Workshops

Consultancy

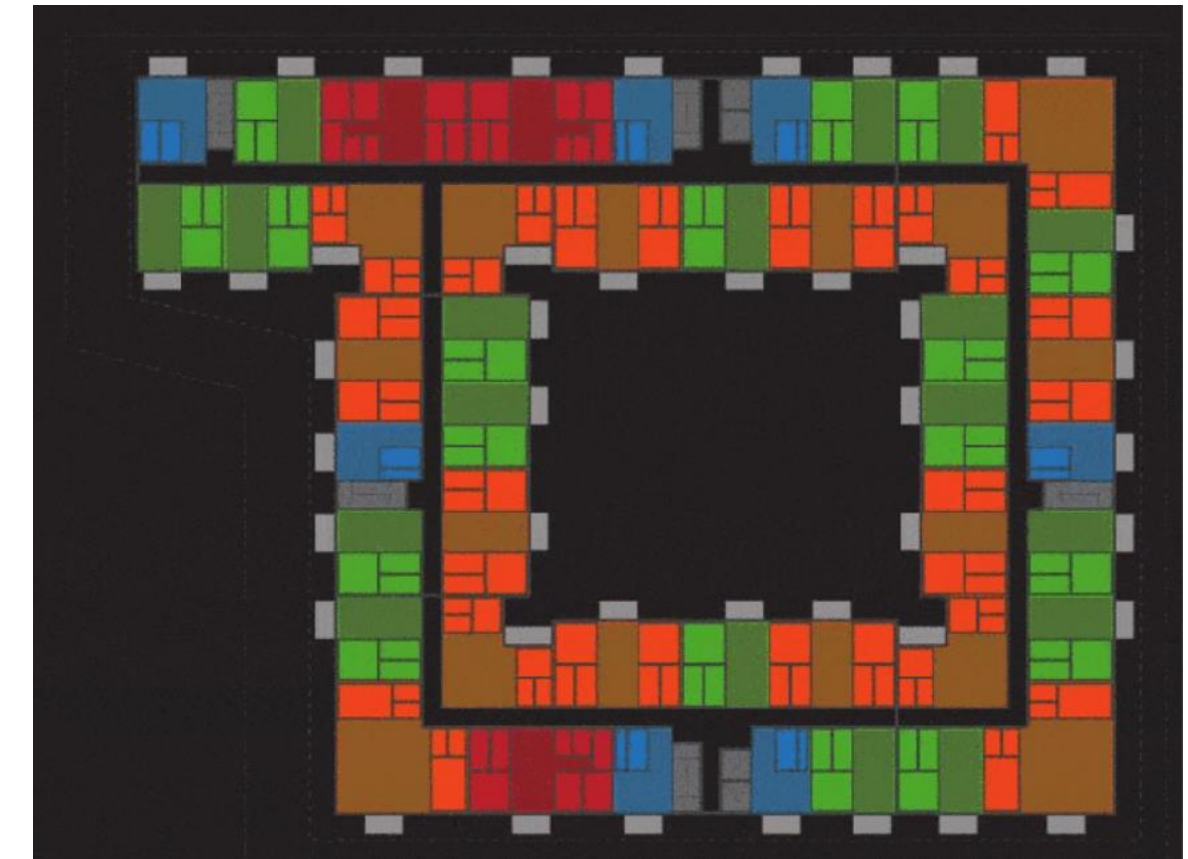


Premier Conseil et
Assistant à maîtrise
d'ouvrage spécialisé
Hors-site

Consultancy

Assistance

Digital tools



Doper le Hors-site par la
puissance du numérique
Outils de
Conception générative

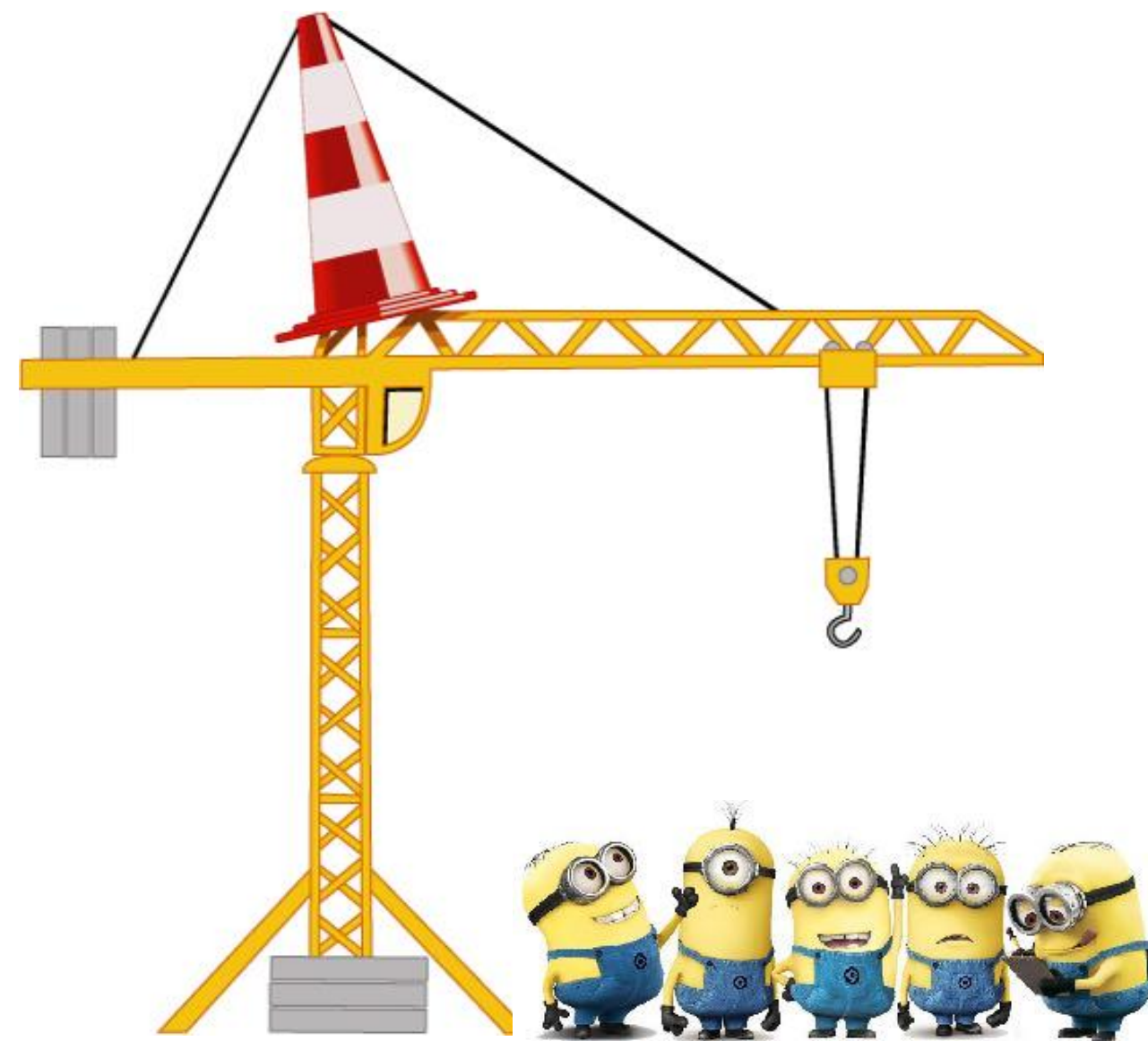
Clients

Supply chain

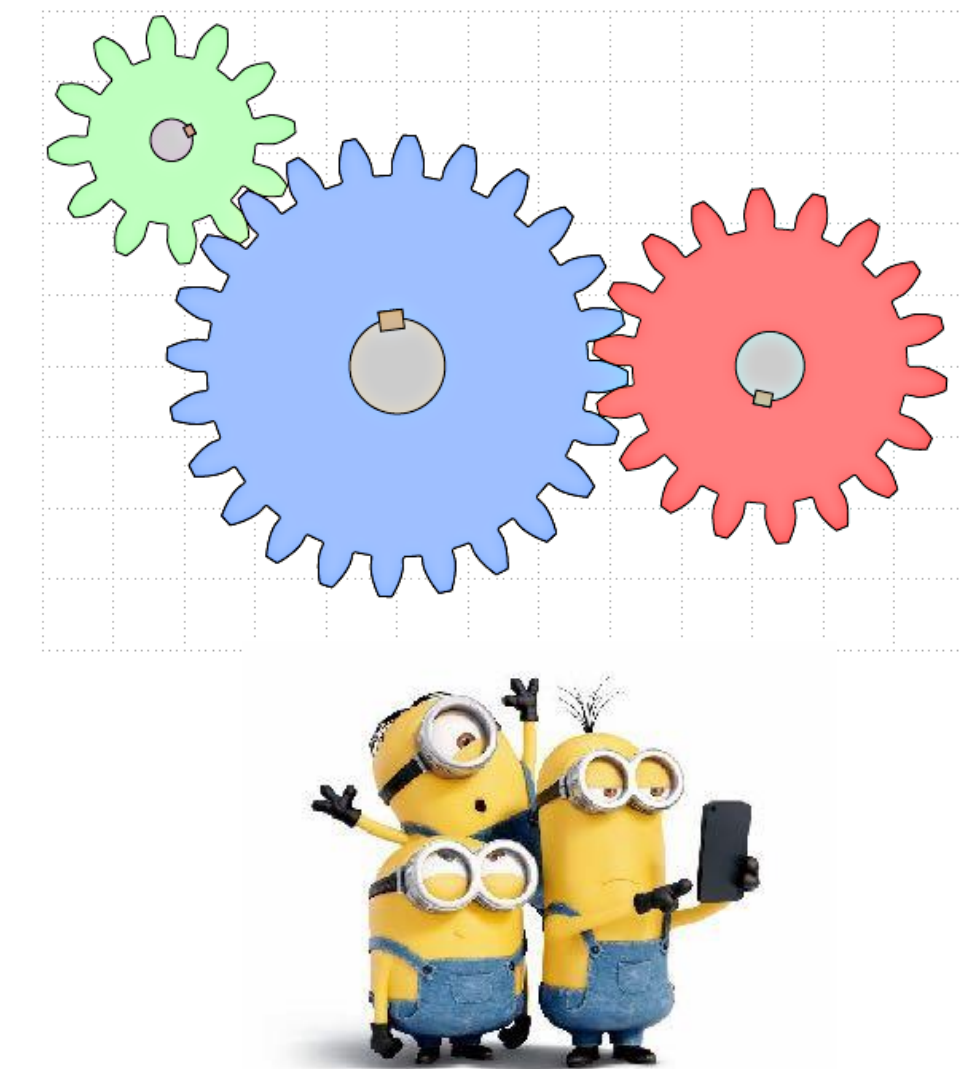
Contact : Pascal CHAZAL
Mail = pascal@hors-site.com
Mobile : + 33 (0) 680 163 787

Bring the building industry to the level of the best industries !

On site Culture



Off site Culture



Contact : Pascal CHAZAL
Mail = pascal@hors-site.com
Mobile : + 33 (0) 680 163 787