



**3DEXPERIENCE®**

# Dassault Systèmes

Construction Cities and Territories



*Reinvent the built environment and ensure a sustainable and resilient urban future.*

# Our Purpose

“

Dassault Systèmes provides business & people with **3DEXPERIENCE** universes to imagine sustainable innovations capable of harmonizing product, nature and life.

”



# Cities are ecosystems

A city is a living environment that fosters interactions between people, government organizations, businesses as well as universities.



People, Government and Business

Cities aim to provide high quality Citizens experience. Citizens expect it from their experiences through the diversity of services through businesses of all sizes and from all sectors.



Experience economy

Infrastructure is the backbone of a city. Its optimization is critical. The design and operation of complex multi-scale systems (transportation, utilities, public safety, land use, housing...) are key to drive and reinvent the built environment.



Multi-scale infrastructure systems

# Construction, Cities & Territories

An Industry to transform the ecosystem where citizens live

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Peri-urban resources

Municipalities

Utilities

Mobility systems

Buildings & Facilities

Construction suppliers

WHY?

How cities are supplied

How cities are regulated

How cities get basic needs managed

How citizen mobility gets supported

How work & living places are provided

How cities are built and managed

WHO?

↑  
People,  
Government  
and Business  
↓

WHAT?

↑  
Multi-scale  
interconnected  
systems  
↓

HOW?

↑  
Experience assets  
from planning,  
to life and renewal  
↓



# Construction, Cities & Territories

An Industry to transform the ecosystem where citizens live

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**Agriculture and Forestry**

**Cities and Territorial Authorities**

**Utilities**

**Transportation Infrastructures**

**Building and Facilities**

**Construction Products & Services**

**WHY?**

How cities are supplied

How cities are regulated

How cities get basic needs managed

How citizen mobility gets supported

How work & living places are provided

How cities are built and managed

**WHO?**

↑  
People,  
Government  
and Business  
↓

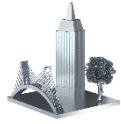
**WHAT?**

↑  
Multi-scale  
interconnected  
systems  
↓

**HOW?**

↑  
Experience assets  
from planning,  
to life and renewal  
↓





# INDUSTRY SEGMENTATION

## Construction, Cities & Territories



- Governments and City Administration
- Agencies & Operators of Territorial Authorities
- Urban Planning agencies



**Cities and Territorial Authorities**



- Operator of Electrical, Gas Distribution
- Operators of Water treatment
- Solid Waste Management
- Services Providers to Utilities
- EPC specialized in Utilities Projects



**Utilities**



Owners, Operators, Architects & Engineering ,  
Contractors focused on:

- Roads, Highways
- Bridges, Tunnels
- Rail and Metro



**Transportation Infrastructures**



Owners, Operators, Architects & Engineering ,  
Contractors focused on:

- Residential & non Residential
- Commercial and Leisure Buildings
- Industrial Facilities and Campuses



**Building and Facilities**



- Specialty Contractors
- Construction Materials
- Prefabricated Structural Products
- Specific Building Products
- Prefabricated buildings & dealers



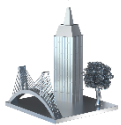
**Construction Products & Services**



- Seeds, Fertilizer, Pesticide
- Farm tools suppliers
- Farm & Forest management
- Agriculture & Forestry services
- Logging planning and execution
- Farm product warehousing and storage



**Agriculture and Forestry**



# Construction, Cities and Territories – Business drivers

*70% Global CO2 emissions come from Cities*



**INCREASINGLY IMPACTFUL CLIMATE & SOCIAL CHANGES**

**INCREASING POLICY AND REGULATORY COMPLEXITY**



*In EU, average 13 procedures needed to get construction permit*

*1 out of 2 citizens wants to give comments to city development projects*



**CITIZEN AND OCCUPANT QUALITY OF LIFE & EXPERIENCE**

**INCREASING URBANIZATION & CHANGING POPULATION DEMOGRAPHICS**



*2.5 billion more inhabitants in cities by 2050*

*>35% of capital projects beyond budget & schedule by more than 10%*



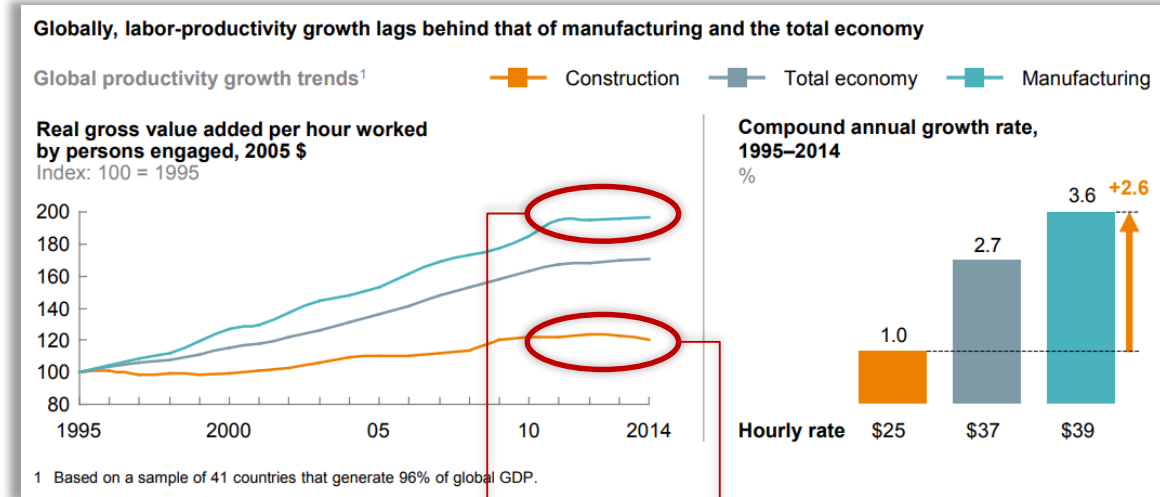
**PRESSURES ON BUDGETS & PROFIT MARGINS**

**INCREASING DATA AVAILABILITY FOR BUILT-ENVIRONMENT & CITIZEN-EXPERIENCE**



*1 trillion of sensors connected to internet in 2023*

# Zoom on expected & quantified benefits in the construction industry



Productivity has double  
in Manufacturing

Productivity has remained  
stagnant in Construction

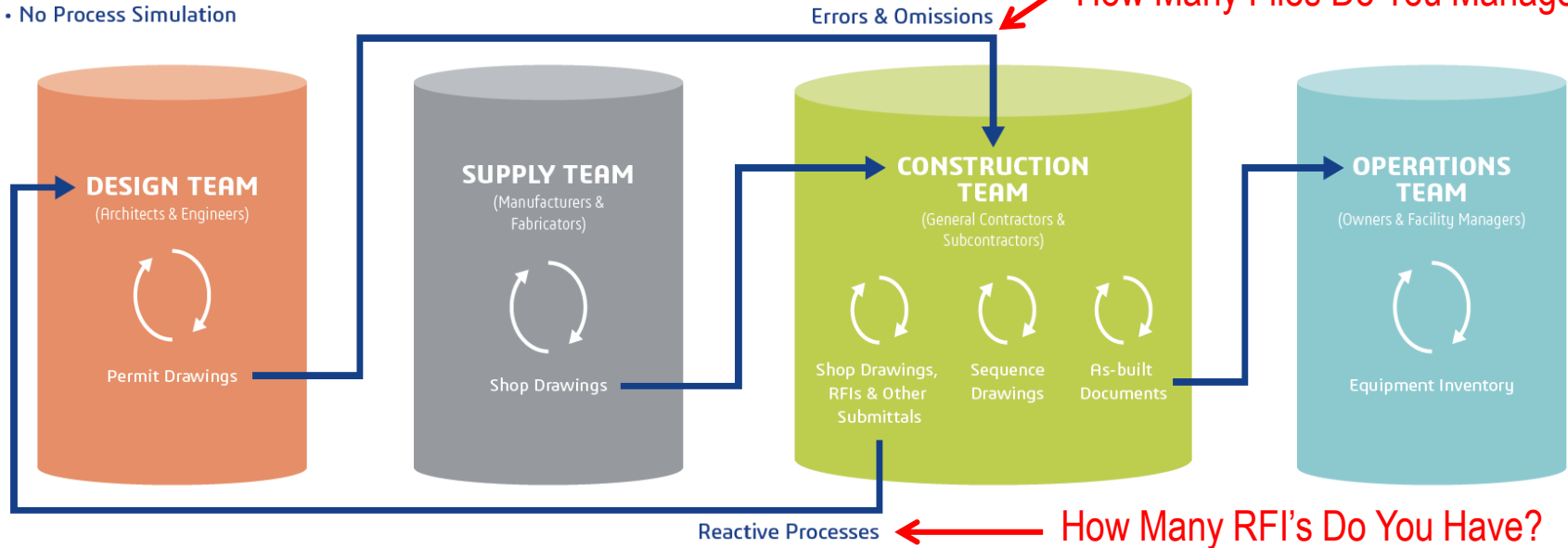


# AS-IS in the Construction Industry...

- No Data Integration
- No Document Continuity
- No Process Simulation

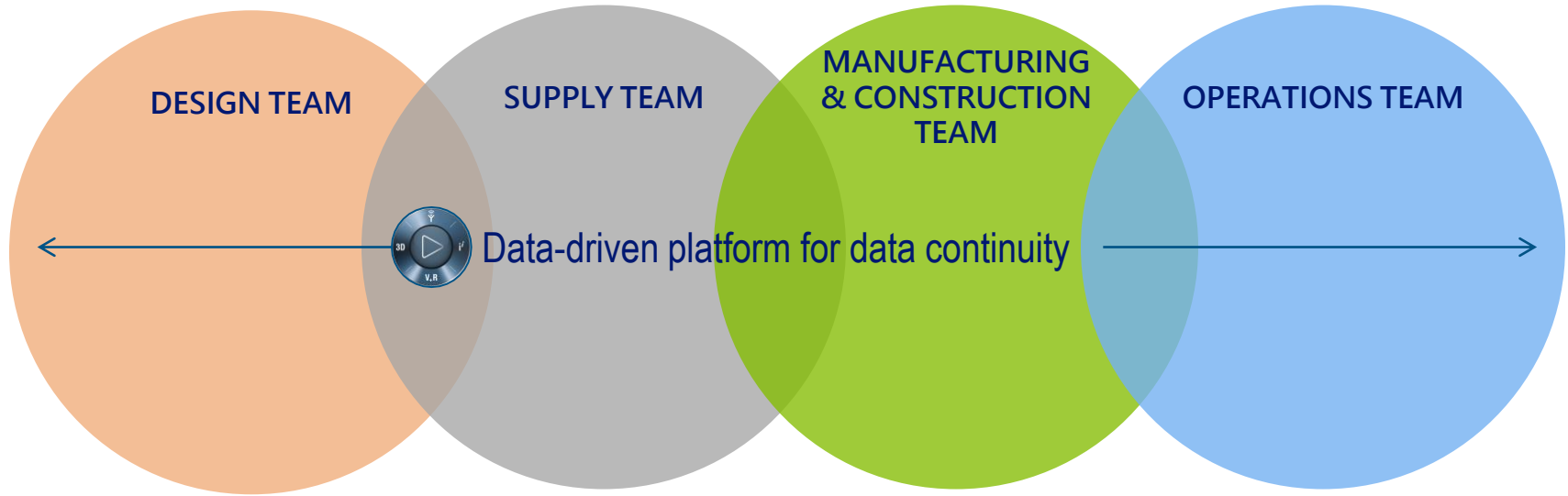
How Many Projects Do You Do In a Year?

How Many Files Do You Manage?



Collaboration on documentation and deliverables exists within each silo, but a lack of collaboration between teams causes errors, rework, RFIs, and inefficiencies.

# Working in 3DEXPERIENCE



The **3DEXPERIENCE** platform enables new ways of imagining the built environment  
Buildings can be designed so that they can be better pre-manufactured and assembled

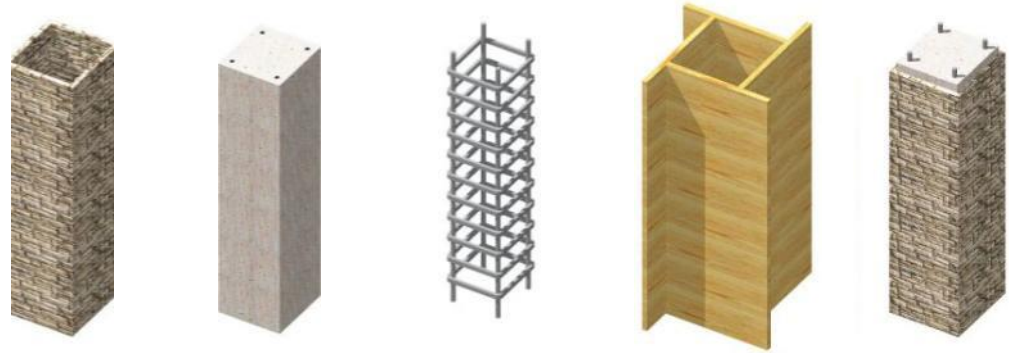
# Zoom on some of the critical business change needed in the construction industry (1/2)

The Target is Factory Automation, NOT Just Workers Indoors



# Zoom on some of the critical business change needed in the construction industry (2/2)

Need to build representations that go beyond the physical description of products



Versions of a Column



Architect

Structural  
Engineer

Structural  
Detailer

Builder

Facility  
Manager

# Construction, Cities & Territories



- Governments and City Administration
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## Cities and Territorial Authorities



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## Utilities



- Owners, Operators, Architects & Engineering ,  
Contractors focused on:
- Roads, Highways
  - Bridges, Tunnels
  - Rail and Metro

## Transportation Infrastructures



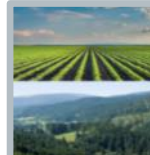
- Owners, Operators, Architects & Engineering ,  
Contractors focused on:
- Residential & non Residential
  - Commercial and Leisure Buildings
  - Industrial Facilities and Campuses

## Building and Facilities



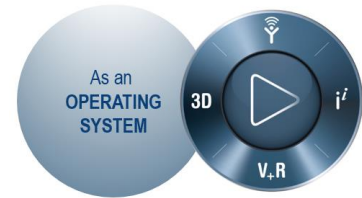
- Specialty Contractors
- Construction Materials
- Prefabricated Structural Products
- Specific Building Products
- Prefabricated buildings & dealers

## Construction Products & Services



- Seeds, Fertilizer, Pesticide
- Farm tools suppliers
- Farm & Forest management
- Agriculture & Forestry services
- Logging planning and execution
- Farm product warehousing and storage

## Agriculture and Forestry



# Bouygues Adopts 3DEXPERIENCE Platform



## Bouygues

Bouygues Construction is a global player in construction, with operations in more than 80 countries. It designs, builds and operates projects in the sectors of building, infrastructure and industry.

## Business Values:

Accelerating the digital transformation of its construction project activities

- Based on **3DEXPERIENCE Platform** and with **ACCENTURE**:
- **centralising** information throughout the project lifecycle, **from design to operation**, and **sharing** it with all internal and external stakeholders,
  - better **structuring** operating methods through the use of more standardised processes

Important step towards **smart** and **sustainable cities**

## Solution:

- 3DEXPERIENCE Platform

# Our Purpose in Action

Zaha Hadid

“We work at all scales  
and in all sectors.  
We create **transformative**  
cultural, corporate, residential  
and other spaces that work in  
**synchronicity with  
their surroundings**”



# Construction, Cities & Territories



- Governments and City Administration
- Agencies & Operators of Territorial Authorities
- Urban Planning agencies

**Urban Development & Transformation**

**10.1 Cities and Territorial Authorities**



- Operator of Electrical, Gas Distribution
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**10.2 Utilities**



Owners, Operators, Architects & Engineering , Contractors focused on:

- Roads, Highways
- Bridges, Tunnels
- Rail and Metro

**Multiscale Transportation Infrastructure**

**10.3 Transportation Infrastructures**



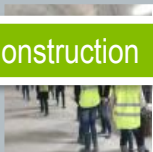
**Industrialized Construction**

**General Contractors Transformation**

**Iconic buildings!**

**Mobilizing the ecosystem**

**10.4 Building and Facilities**



- Specific Building Products
- Prefabricated buildings & dealers

**10.5 Construction Products & Services**

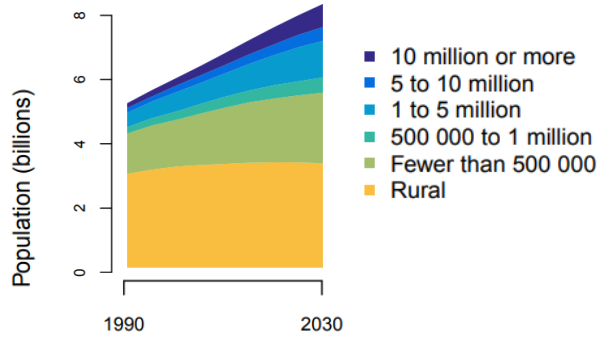


- Seeds, Fertilizer, Pesticide
- Farm tools suppliers
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- Agriculture & Forestry services
- Logging planning and execution
- Farm product warehousing and storage

**10.6 Agriculture and Forestry**



# Some last thoughts



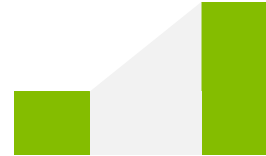
By 2030,  
**110 cities**  
with >5 millions inhabitants  
**1300 cities**  
with 500,000 – 5 millions inhabitants



People, Government and Business

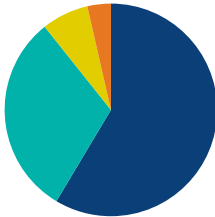
**From \$80bn in 2017 to \$200bn by 2025**

growth in connected home services such as remote control of home heating



Experience economy

- Roads
- Rail
- Ports
- Airports

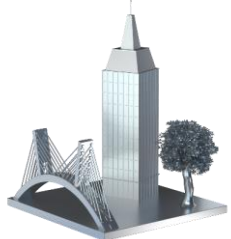


**\$1,4 trn per year**

in transportation infrastructure over the next decade



Multi-scale infrastructure systems



*Reinvent the built environment and ensure a sustainable and resilient urban future.*