



SEP Scaleup Summit Milan, 11 & 12 March 2019

Acciona, ACEA, Autodesk

Deep dive: Digital Construction and Infrastructure

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WORLD LEADER IN SUSTAINABLE INFRASTRUCTURE SOLUTIONS AND
RENEWABLE ENERGY PROJECTS

BUSINESS AS UNUSUAL



**+38,000
employees**

In over 40 countries, 5 continents

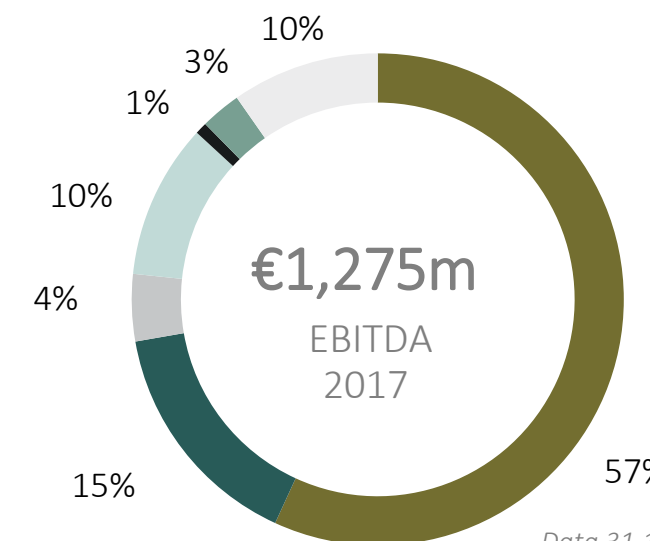
**+75 years
of history**

~50% family control

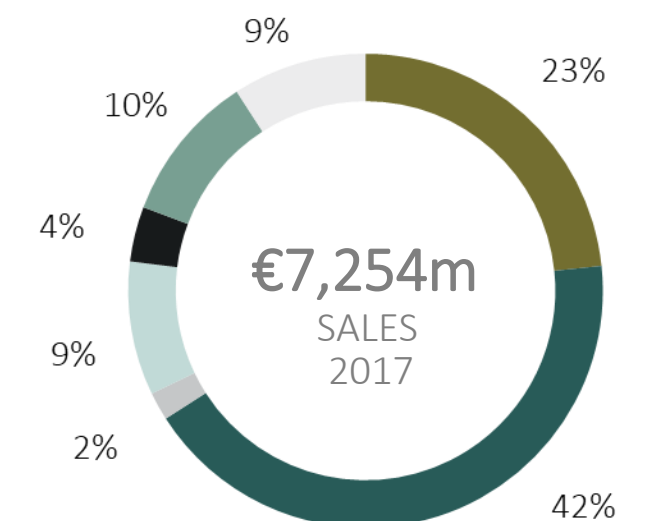
225m

In R+D+i

- ENERGY
- CONSTRUCTION
- CONCESSIONS
- WATER
- INDUSTRIAL
- SERVICES
- OTHERS



Data 31.12.2017



MOST OF THE EBITDA AND REVENUES COMES FROM
THE ENERGY AND CONSTRUCTION BUSINESSES



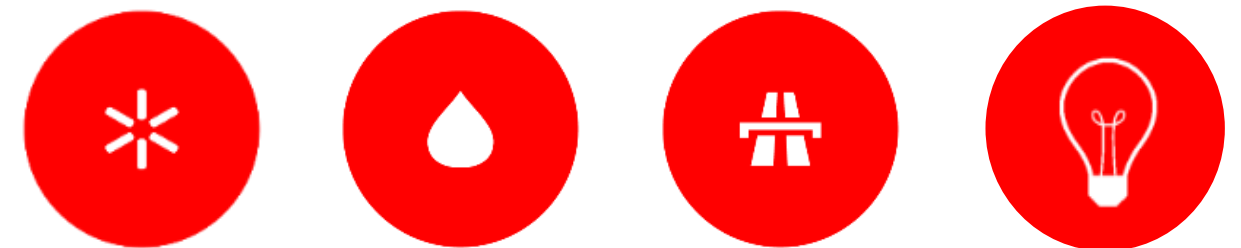
The platform that makes real our new vision on how we innovate



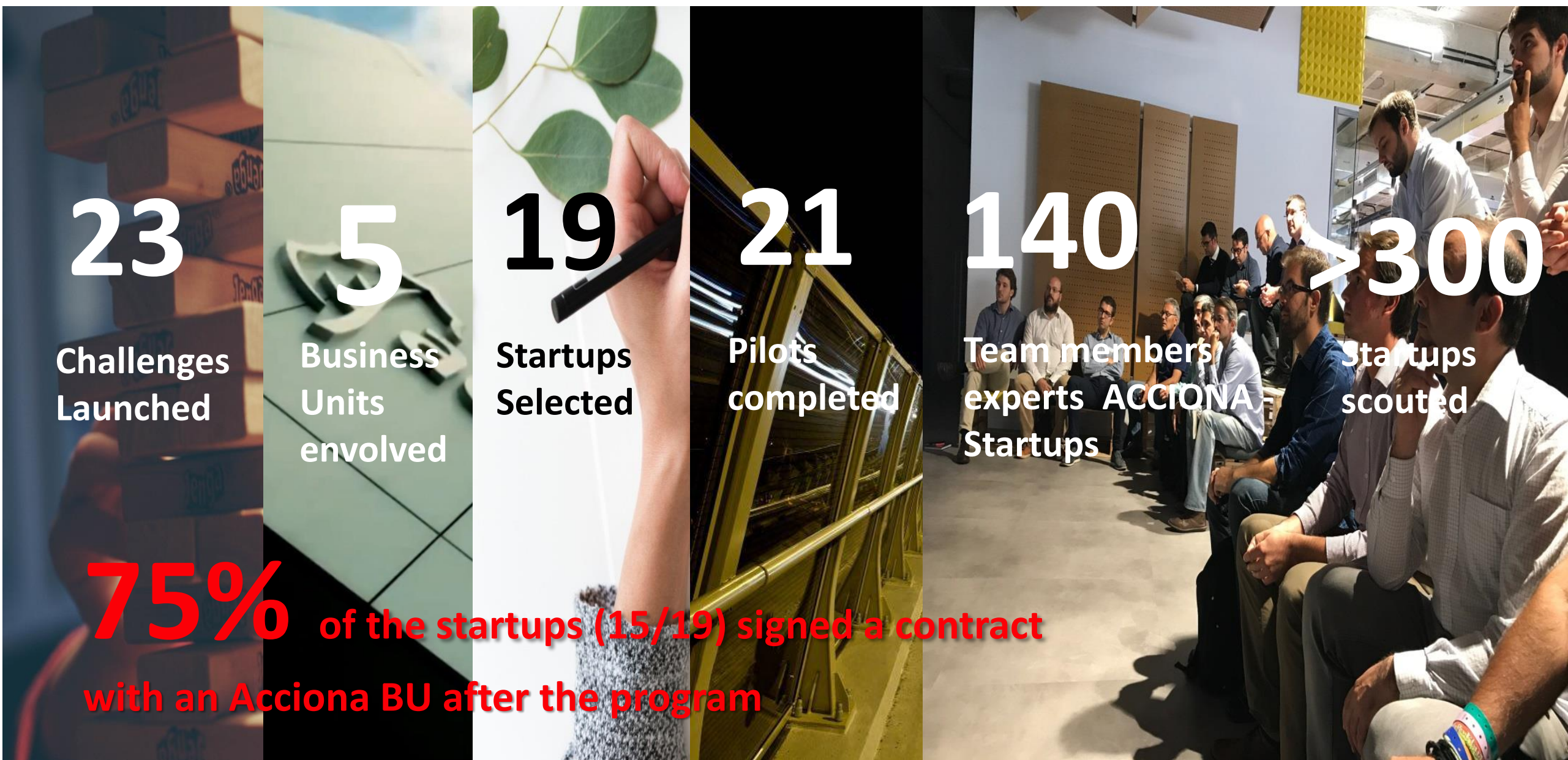
- **Opening the company** to disruptive technologies and business models from **startups** and **partners**



- Cross-leveraging the work of our **R&D Centers, innovation teams** and for boosting results



Our mission: to improve competitiveness, efficiency and generate new revenues and businesses



Company Profile

ACEA GROUP

One of the main multiutilities in the Italian market.
Listed on the stock exchange since 1999, it is active in the management of networks and services in the water, energy and environmental sectors

WATER

- 9m of customers
- RAB €1,3bn

ENERGY INFRASTRUCTURES

- Electricity distribution: 1,6m PODs & RAB €1,9bn
- Public Lighting: >224k lighting points, 80% LED
- Electricity Generation: 7 hydroelectric power stations (121 MW), 2 thermoelectric power stations (97MW), 1 photovoltaic farm (9 MW)

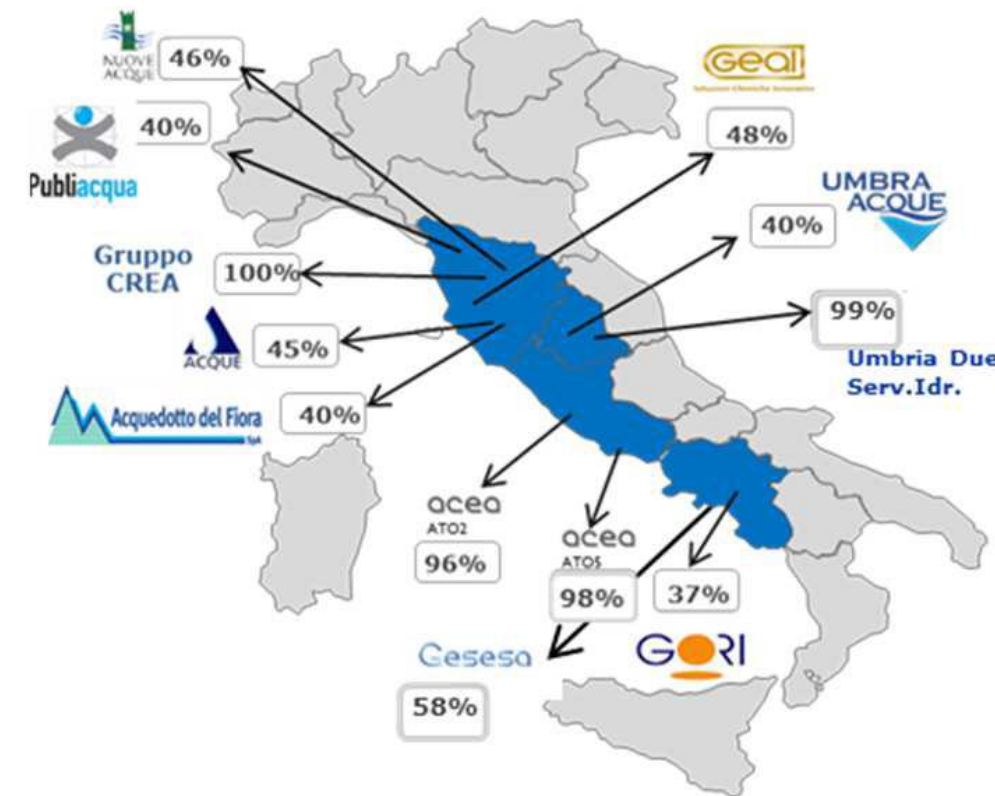
COMMERCIAL & TRADING

- 1.3m customers
- ~6.8 TWh of electricity sold

ENVIRONMENT

- >1m tons of waste treated
- 355 GWh of electricity produced

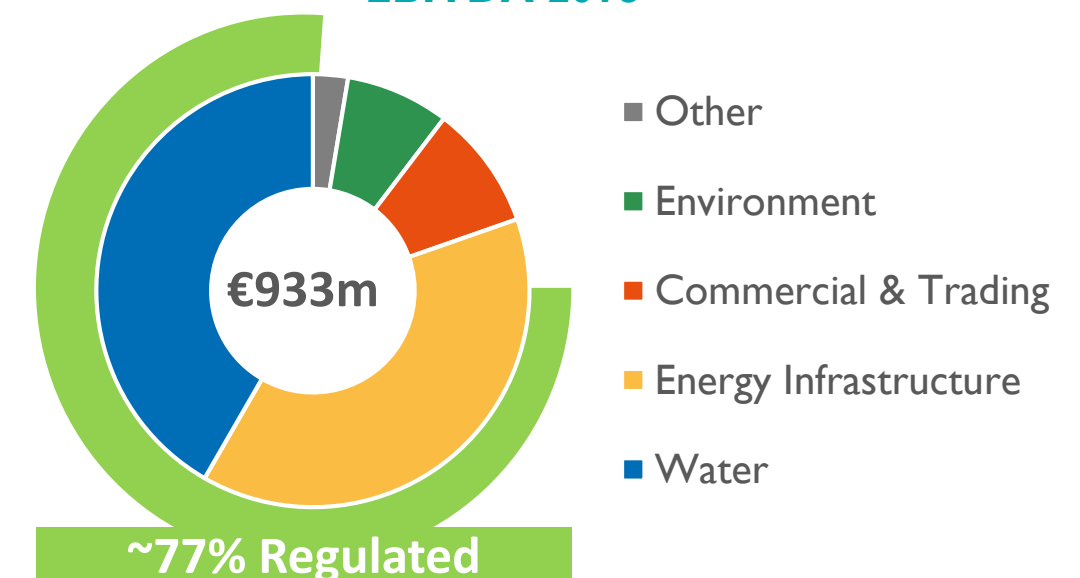
FOOTPRINT



LATAM



EBITDA 2018



Strategy & Consolidated Targets

STRATEGY FOUNDATION



4 MAIN STRATEGIC PILLARS:



INDUSTRIAL GROWTH



LOCAL FOCUS & SUSTAINABILITY



TECHNOLOGY, INNOVATION & QUALITY



OPERATIONAL EFFICIENCY

STRATEGIC GROWTH LEVERS



3 STRATEGIC LEVERS:



CAPEX REMIX



FOCUS ON INFRASTRUCTURE



CAPEX DISCIPLINE

INNOVATION



3 GROWTH LEVERS:



INFRASTRUCTURE
Security & Efficiency









PEOPLE
Welfare of personnel



CUSTOMERS
Customer-Centricity

SUSTAINABILITY



-  **CUTS IN CO2**
(Reduced losses, Purchase of Green Energy, Recovery of Biogas)
-  Reduction in **WATER LEAKS**
-  **GREEN ENERGY** for internal use within the Group
-  **REDUCTION IN RISK RATING** for electricity grid to boost resilience
-  Waste treated according to **CIRCULAR ECONOMY** concept
-  **SAFETY INSPECTIONS** of maintenance

Our Innovation Mission



Investments in innovative industrial projects, oriented by three founding pillars: **Customers**, the people working in Acea and the infrastructures that convey the services and guarantee the quality and reliability

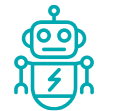
APPLICATIONS



Smart & Resilient Grid



Smart Meters



Automation and Robotics



Advanced sensor technology



Predictive modelling



Physical security and Cyber-security

**+€400M
TO BE
INVESTED IN
INNOVATION**

OPERATIONAL ADDRESS

WATER

- Leaks reduction
- Emergency management
- Rationalization of small treatment plants
- Upgrade network
- Smart meters

ENERGY INFRASTRUCTURES

- Drive electrification
- Increase of network resilience
- Smart Grid to enable new services

COMMERCIAL & TRADING

- Improvement to the customer journey
- Marketing drive through Digital and Cross Selling Channel
- Improve Customer quality

ENVIRONMENT

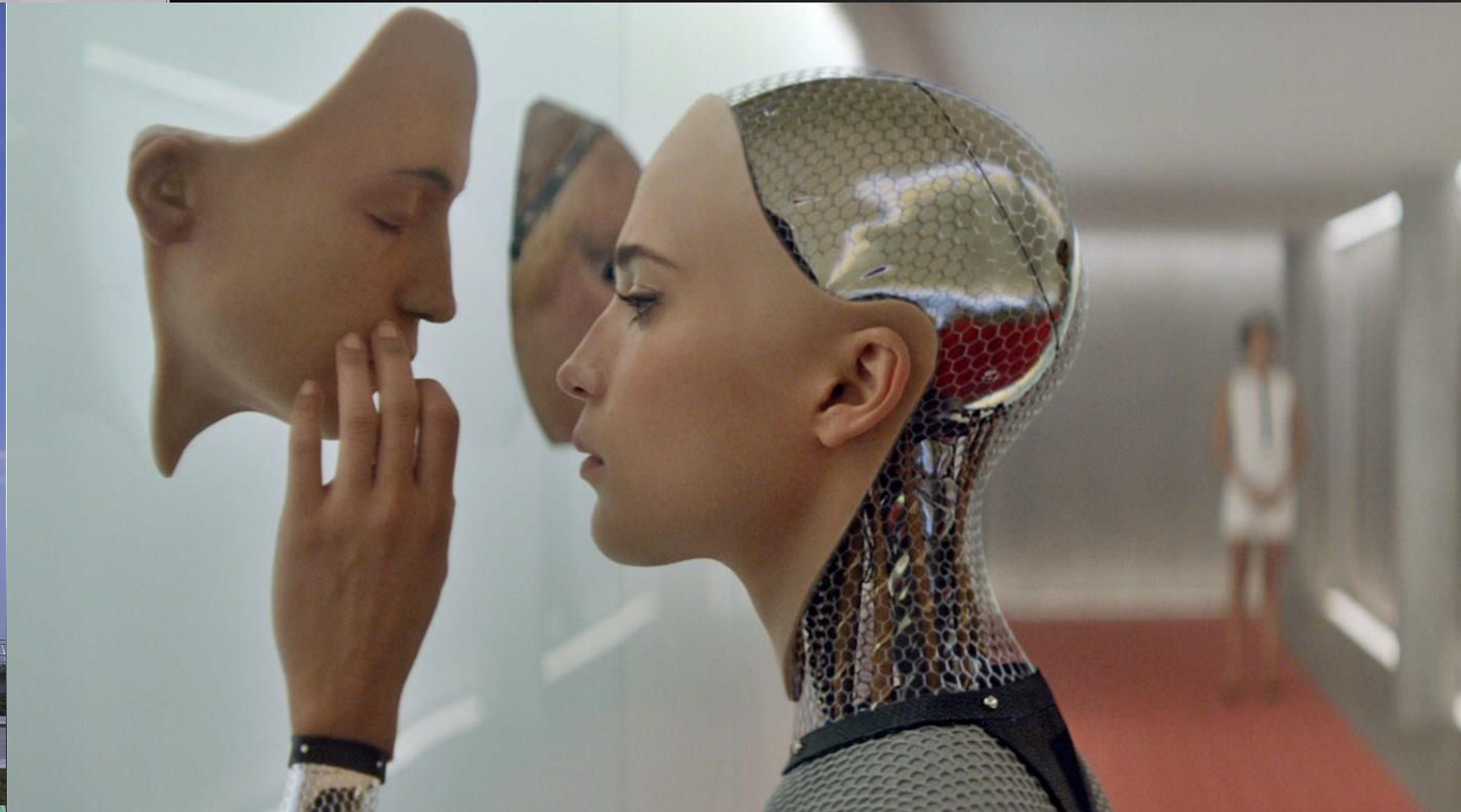
- Boost to the circular economy
- Optimization of waste treatment performance

A close-up photograph of a person's face, partially obscured by a complex, illuminated mechanical sculpture. The sculpture is made of brass or copper, featuring intricate gears, levers, and a dense, feathery structure. It is lit from within, casting a warm glow. The person's hand is visible, holding the base of the sculpture. The background is blurred, showing a workshop or studio environment.

AUTODESK

The Autodesk vision is to help people imagine, design, and make a better world.

MAKE ANYTHING



The Future of the Construction Industry

**Transformation into the Digital Opportunities
and Challenges**



~10% GWP / \$ 8.5 T

→ \$ 16 T by 2030



>2 Mio people / week

Double city capacity

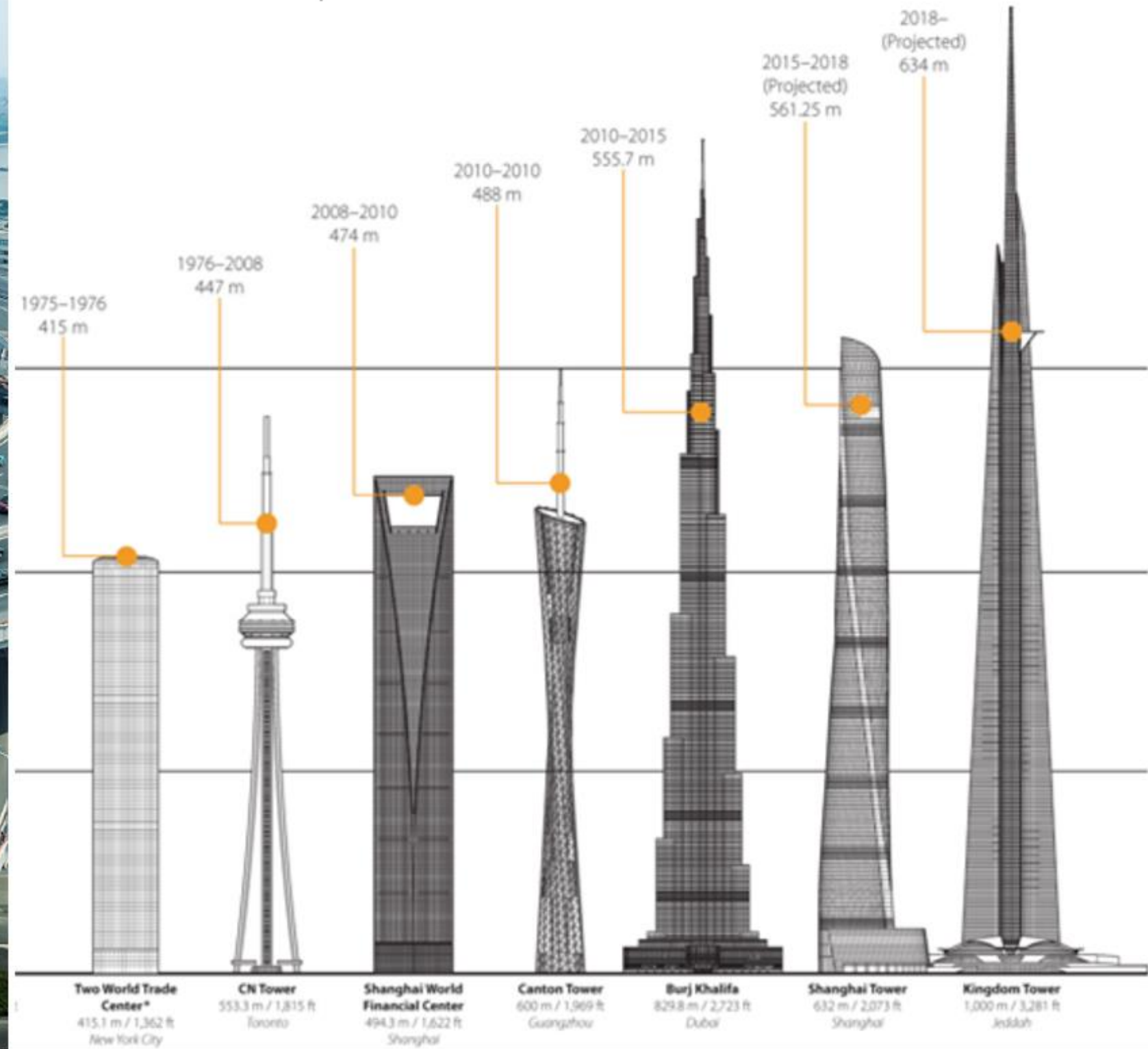
>4000 buildings / day



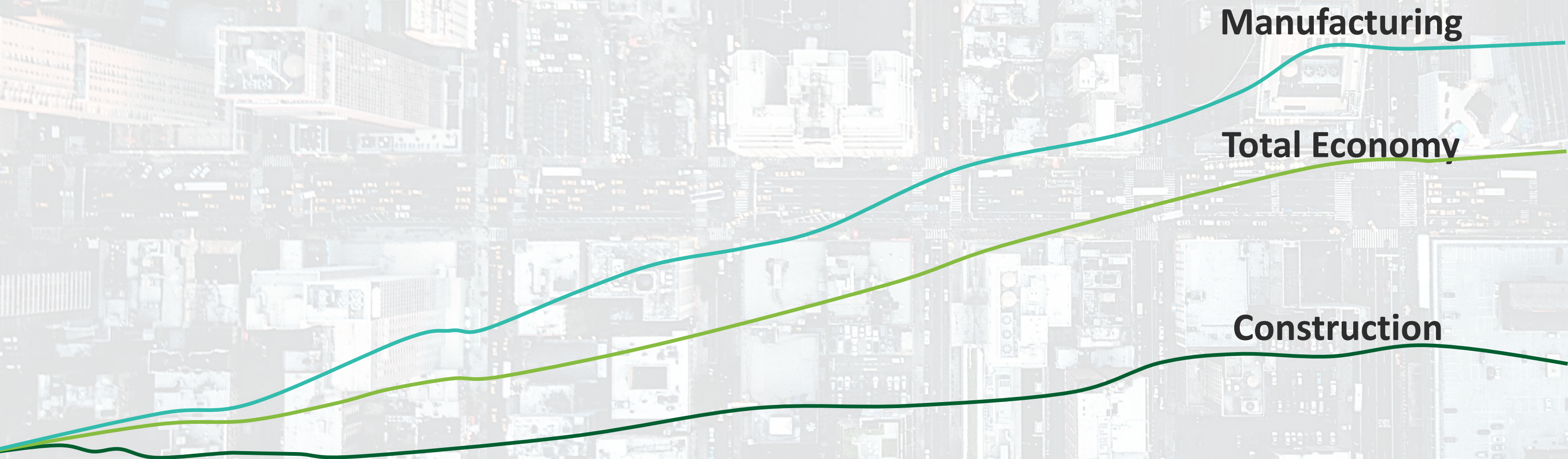
2006

2016

500% increase over 200m



Productivity Index



Manufacturing

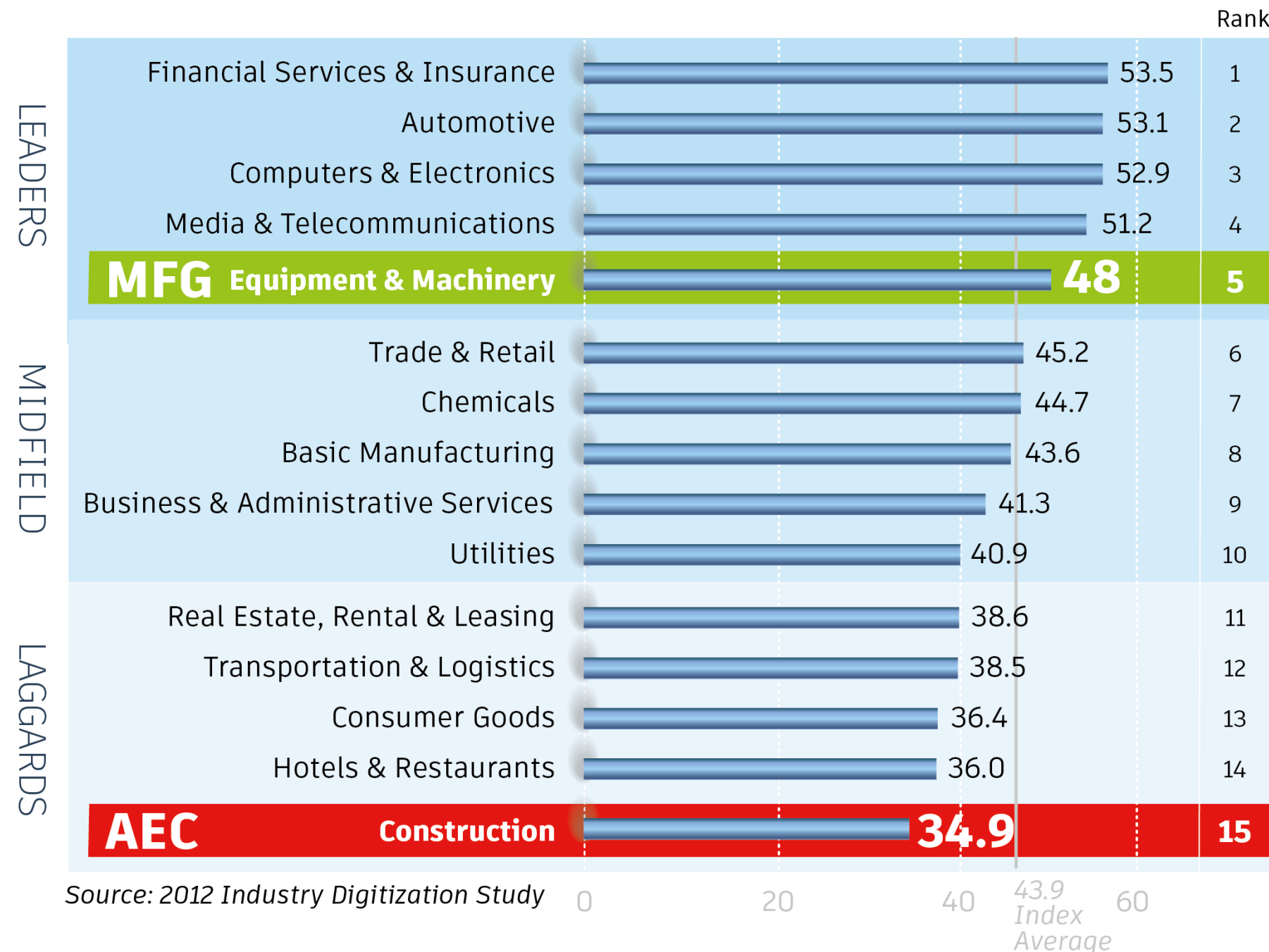
Total Economy

Construction

Sources: OECD; WIOD; GGCD-10; World Bank; BEA; BLS; National statistical agencies of Turkey, Malaysia, and Singapore; Rosstat; McKinsey Global Institute analysis (2014)

Digitalization vs. IT Investment

INDUSTRY DIGITIZATION INDEX



INVESTMENT IN IT



The background is a collage of three images: a green-tinted binary code (0s and 1s) on the left, a blue-tinted city skyline at night on the right, and a yellow-tinted light trail of a road on the bottom. A white rectangular box with a 3D effect is centered in the image, containing the text.

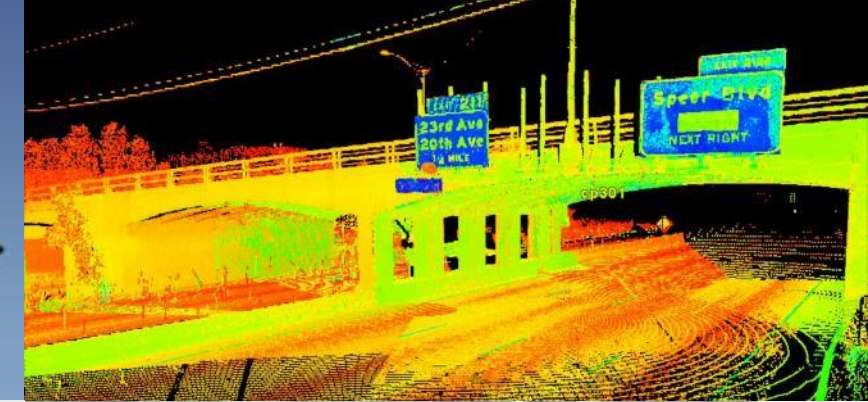
**Analog – Digital
Savings/year**

\$1.2T

Design, Engineering and Construction

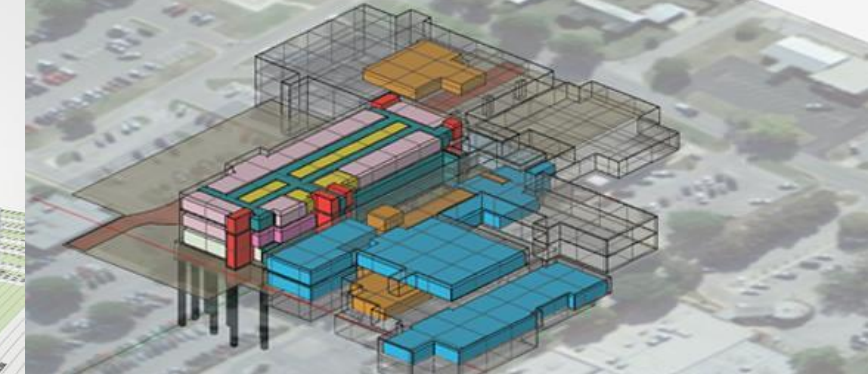
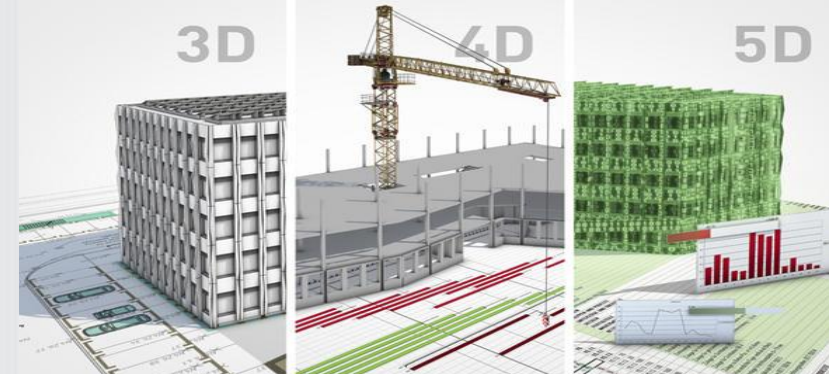
1

Higher definition
surveying and
geolocation



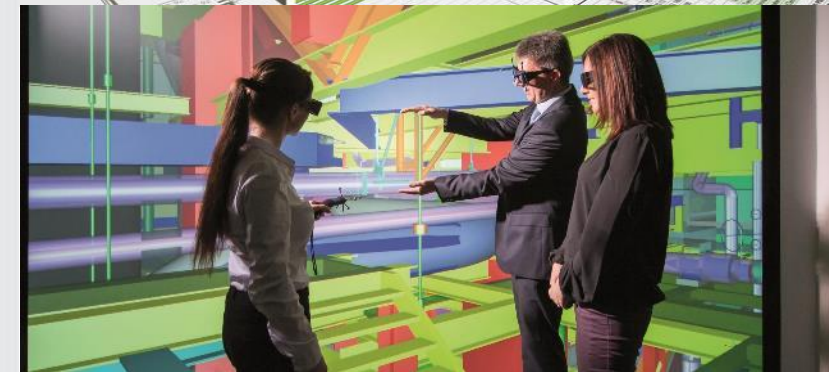
2

5-D Building
Information
Modeling



3

Digital
collaboration
and mobility



4

The internet
of things and
advanced
analytics



5

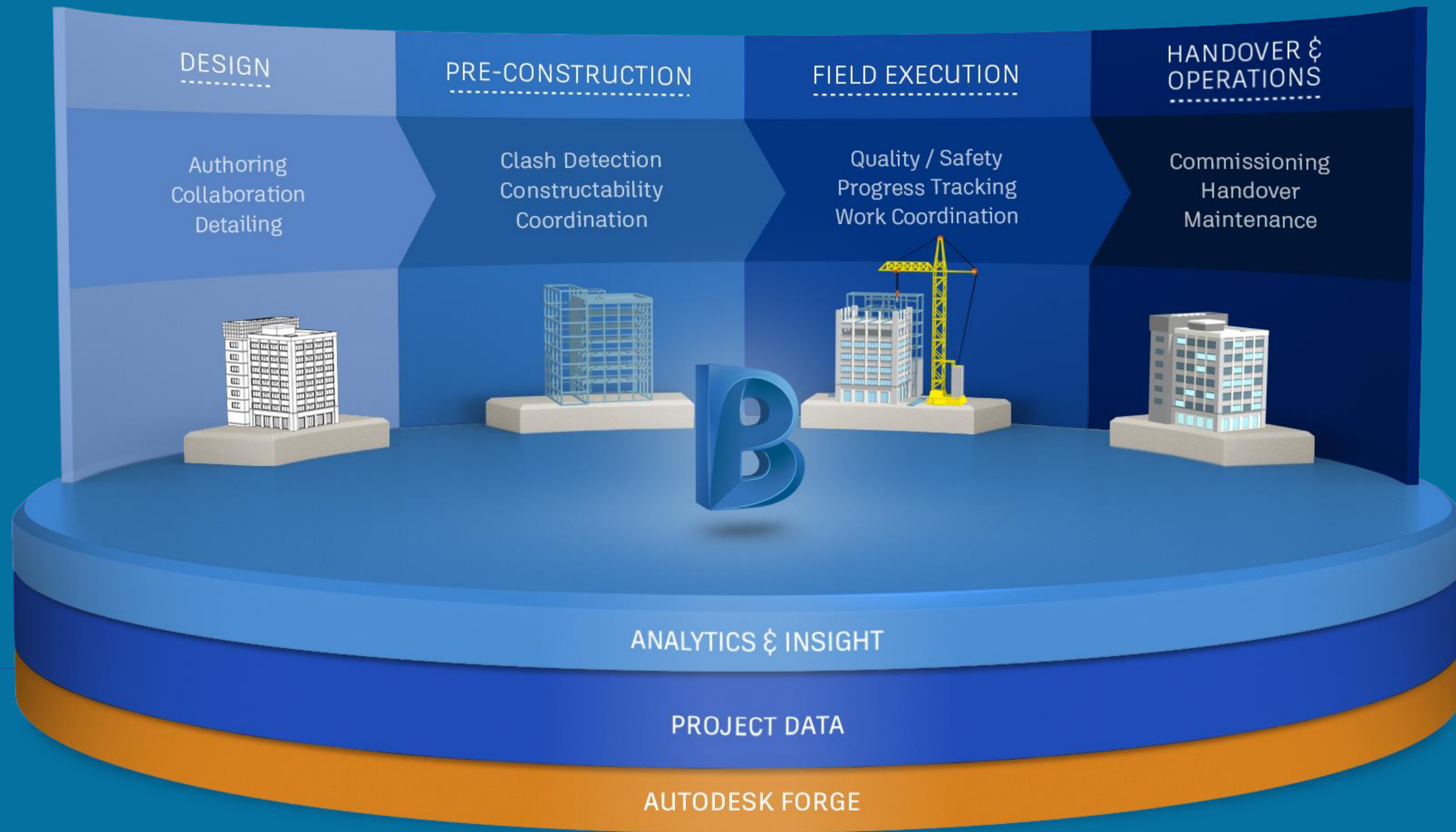
Future-proof
design and
construction



CONNECTED BIM

AUTODESK® ARCHITECTURE,
ENGINEERING & CONSTRUCTION
COLLECTION

3RD PARTY
APPLICATIONS



Forge Integration Partners

Implement, Integrate and Execute with BIM 360

Example for an ecosystem



Main Focus Areas for Digitalization

Digitalizing the Design and Construction Process

- Design to Fabrication
- Design to Preconstruction
- Design to Construction

Industrialization of Construction

- The Connected Work Site
- Automation & Robotics
- 3D Printing
- Connected BIM workflows (VR/AR/MR, Generative Design, Machine Learning, Reality Capturing, Simulation&Analysis etc.)
- Autonomous machinery and vehicles
- Other themes around data, blockchain (ie. Safety, Monitoring, Management & Administrative)

Data focused Operation & Maintenance of Infrastructures

- Remote control and monitoring
- Predictive forecasting and maintenance
- Advanced delivery

The Future of the Cities

- Design & Planning
- Mobility & Transportation
- Connected New Services

Expectations/ROI

- Reduce Risk and Cost, Increase Quality
- Drive Profitability, Safety and Sustainability
- Generate New Revenue Lines and Business-Models



