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# FORD OTOSAN



## A Case Study of Digital Journey: Ford Otosan

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November 2017

- **Company Presentation**
  - About Ford Otosan
  - Plants
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- **We are aware of...**
- **Ford Otosan's Digital Journey**

# About Ford Otosan



# KEY PLAYER IN FORD MOTOR COMPANY UNIVERSE

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**Robust sales  
performance**

**Highest** commercial vehicle market share of Ford in Europe  
Among Ford's **top 3 markets in Europe** (Britain, Turkey, Hungary, Ireland, Romania)

**Leading  
manufacturing hub**

**Lead** manufacturing plant of Ford Transit globally  
**Single** source of Ford Transit Custom & Tourneo Custom  
**Single** source of Ford Transit Courier & Tourneo Courier  
**One of the two** production centers globally for Ford Cargo heavy trucks

**Engineering and  
R&D power**

**Global hub** for Cargo heavy trucks and related powertrains  
**Global support** for Light Commercial Vehicle Development  
**Global support** for Diesel Powertrain Engineering



# LOCATIONS

Sancaktepe Engineering Center (2015)



Sancaktepe Parts Distribution Center (1998)



İnönü Plant (1982)



Kocaeli Plants: Gölcük Plant: Transit (2001), Custom (2012)



Yeniköy Plant: Courier (2014)

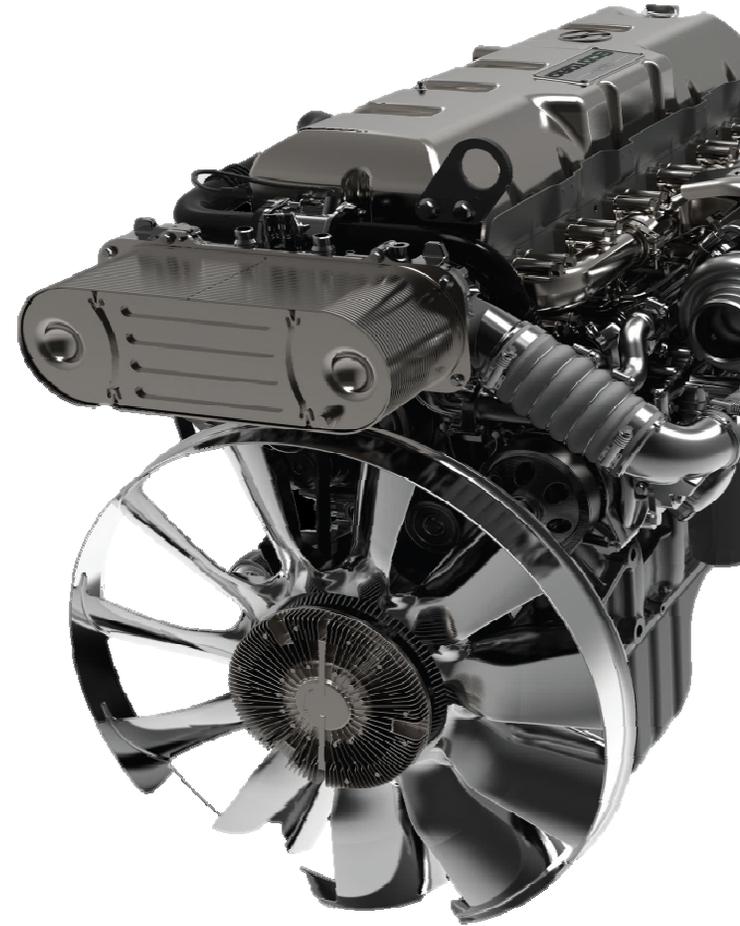


# COMMERCIAL VEHICLE PORTFOLIO



# ECOTORQ ENGINE FAMILY

- Available in **9L 330PS** and **13 L 420 to 480PS**
- Environmentally Friendly **Euro 6 Emission Levels**
- Turbocharger with **Variable-Geometry**
- **2500 bar Common-Rail** Fuel Injection System
- **Specially Coated** Pistons
- **Smart Charging** Alternator



# THE NEWEST & WIDEST PORTFOLIO IN THE INDUSTRY



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**We are aware of...**



## The global trends

Seven global megatrends shape the face of the world in 2030

<b>T1</b> CHANGING DEMOGRAPHICS	GROWING WORLD POPULATION AGING SOCIETIES INCREASING URBANIZATION
<b>T2</b> GLOBALIZATION & FUTURE MARKETS	ONGOING GLOBALIZATION BRIC: THE NEW POWERHOUSES BEYOND BRIC
<b>T3</b> SCARCITY OF RESOURCES	ENERGY WATER OTHER COMMODITIES
<b>T4</b> THE CHALLENGE OF CLIMATE CHANGE	INCREASING CO <sub>2</sub> EMISSIONS GLOBAL WARMING ECOSYSTEM AT RISK
<b>T5</b> DYNAMIC TECHNOLOGY & INNOVATION	TECHNOLOGY DIFFUSION POWER OF INNOVATION THE AGE OF LIFE SCIENCES
<b>T6</b> GLOBAL KNOWLEDGE SOCIETY	KNOW-HOW BASE GENDER GAP WAR FOR TALENT
<b>T7</b> SHARING GLOBAL RESPONSIBILITY	SHIFT TO GLOBAL COOPERATION GROWING POWER OF NGOs INCREASING PHILANTHROPY

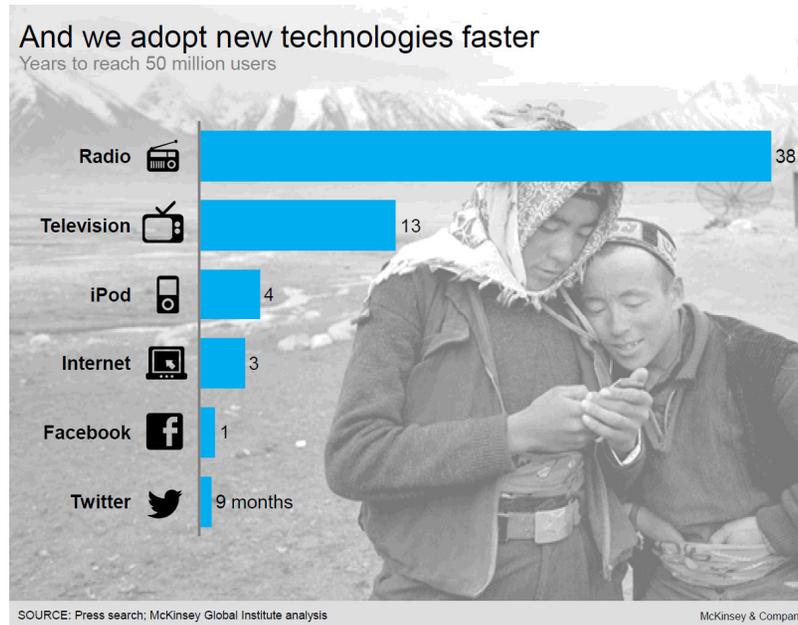
Source: Roland Berger Strategy Consultants, Trend Compendium 2030, p.20.

# WE ARE AWARE OF...

## The technology trends



## The trends affecting automotive



**Information and communication technologies which bring new applications and new business models are adopted into our lives faster and faster.**

# WE ARE AWARE OF...

## The trends affecting automotive:



Source: Tübitak MAM presentation

### Urbanization and population changes

- population increase from 7 billion now, to 9 to 11 billion in 2050
- urban population increase %70 to %90 population to live in cities by 2030
- urban mobility to increase x2,6 from now to 2030
- aging population and increase of dependency ratio

Source: World Economic Forum, A Field Guide to the Future of Mobility

# WE ARE AWARE OF...

## The trends affecting automotive:



Source: phys.org



<http://www.hindustantimes.com>

**Sustainability, safety and health issues raising up**

## WE ARE AWARE OF...

### The trends affecting automotive:

*OEMs and dealers need to offer new consumer services*



*«..the fear of OEMs is that a car will become a **smartphone on wheels**, with cars built around their **entertainment value** rather than their **hardware value**.. »*

*P. Fielden, IBM*

 ÇUKURYILMAZ

Source: Çukuryılmaz, Digital Transformation and Data Protection in Automotive Industry

# WE ARE AWARE OF...

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## The trends affecting automotive:

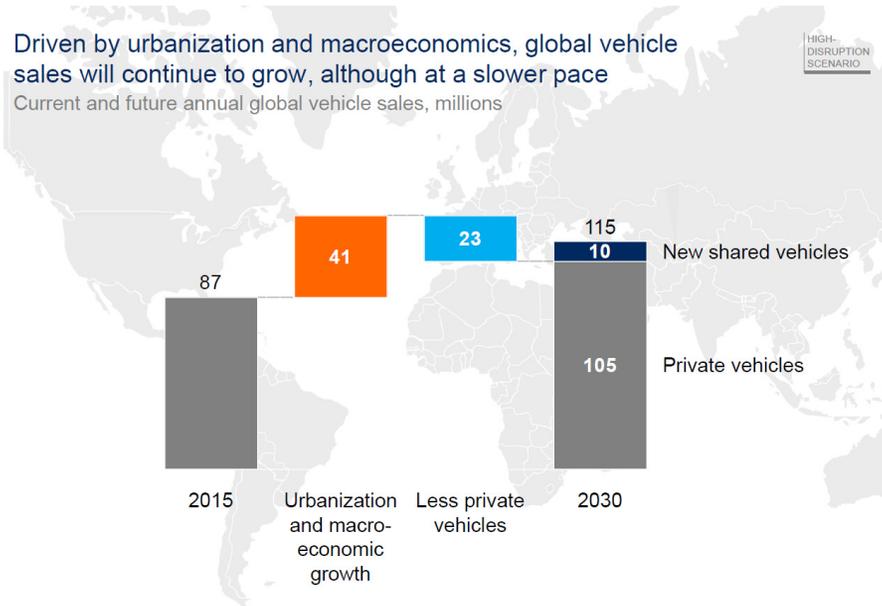
Gen Y and Gen Z replace baby boomers and Gen X.

- 2 billions of post 1993 born Gen Z dictates future consuming patterns
- New life style, new consumer behaviors
- Always online. Digital is the new normal for Gen Y and Gen Z.
- Automobile is not a symbol of statue anymore but just an appliance
- Mobility and connectivity are key important. Mobility as a service (MaaS), less ownership, more option, more connection (multimode), more “sharing”
- Priorities: cost, fuel efficiency, technology, customer experience
- Walking, riding a bike, public transportation, sharing or hiring a car is preferred when a car is needed.
- 1 shared car is equivalent to 32 purchased cars. Still 80% of Gen Y plan to buy a car in next 5 years.

Source: World Economic Forum, A Field Guide to the Future of Mobility

## The trends affecting automotive:

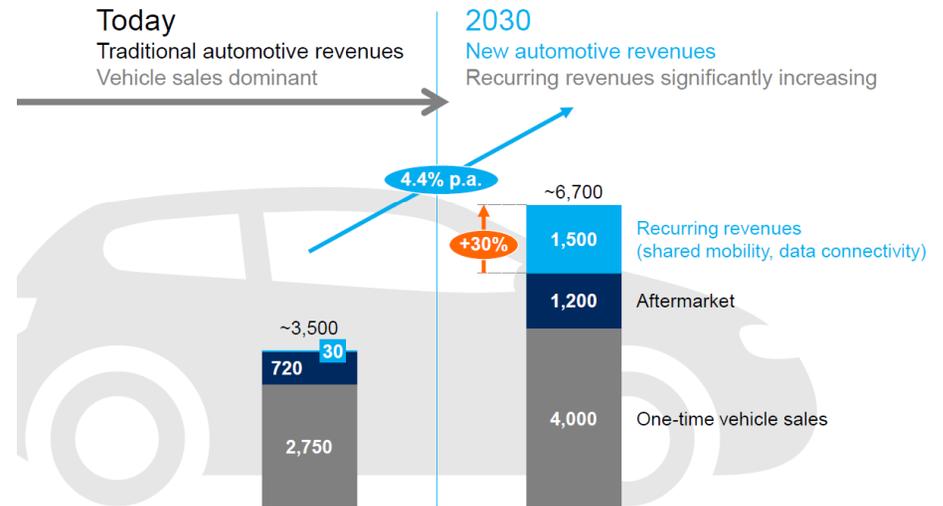
Driven by urbanization and macroeconomics, global vehicle sales will continue to grow, although at a slower pace  
 Current and future annual global vehicle sales, millions



Source: McKinsey&Company, Automotive 2030 – a Revolution?

The automotive revenue pool will grow and diversify with new services, potentially becoming a ~USD 1.5 trillion market in 2030  
 USD billions

High-Disruption Scenario



New trends will have deep impact on revenue streams

# WE ARE AWARE OF...

## The trends affecting automotive:



## New technologies and business models

- Connected
- Autonomous
- Electric
- Shared



## WE ARE AWARE OF...

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The trends affecting automotive:

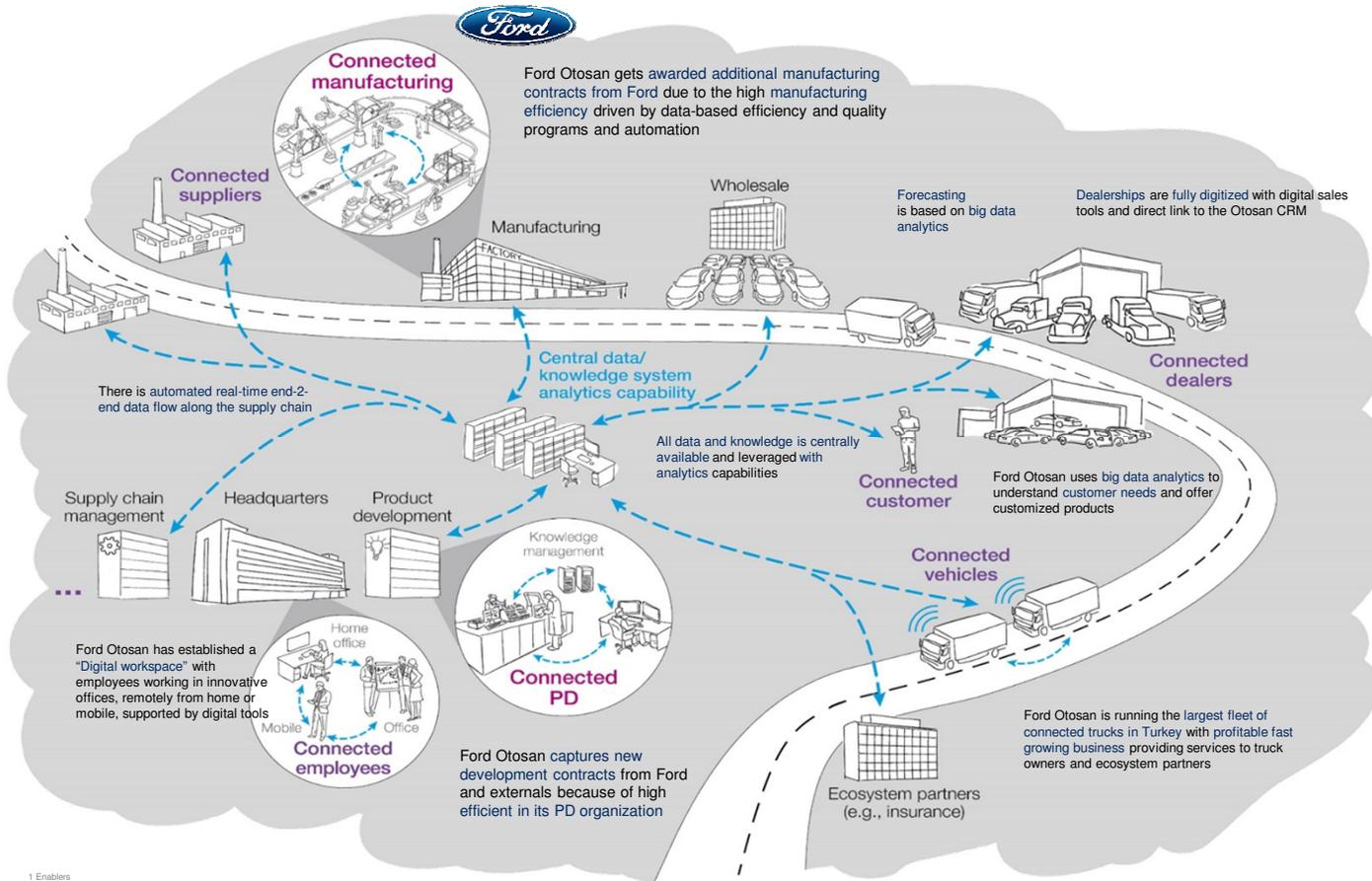


Source: <https://dupress.deloitte.com/dup-us-en/multimedia/videos/roadmap-for-future-of-urban-mobility.html>

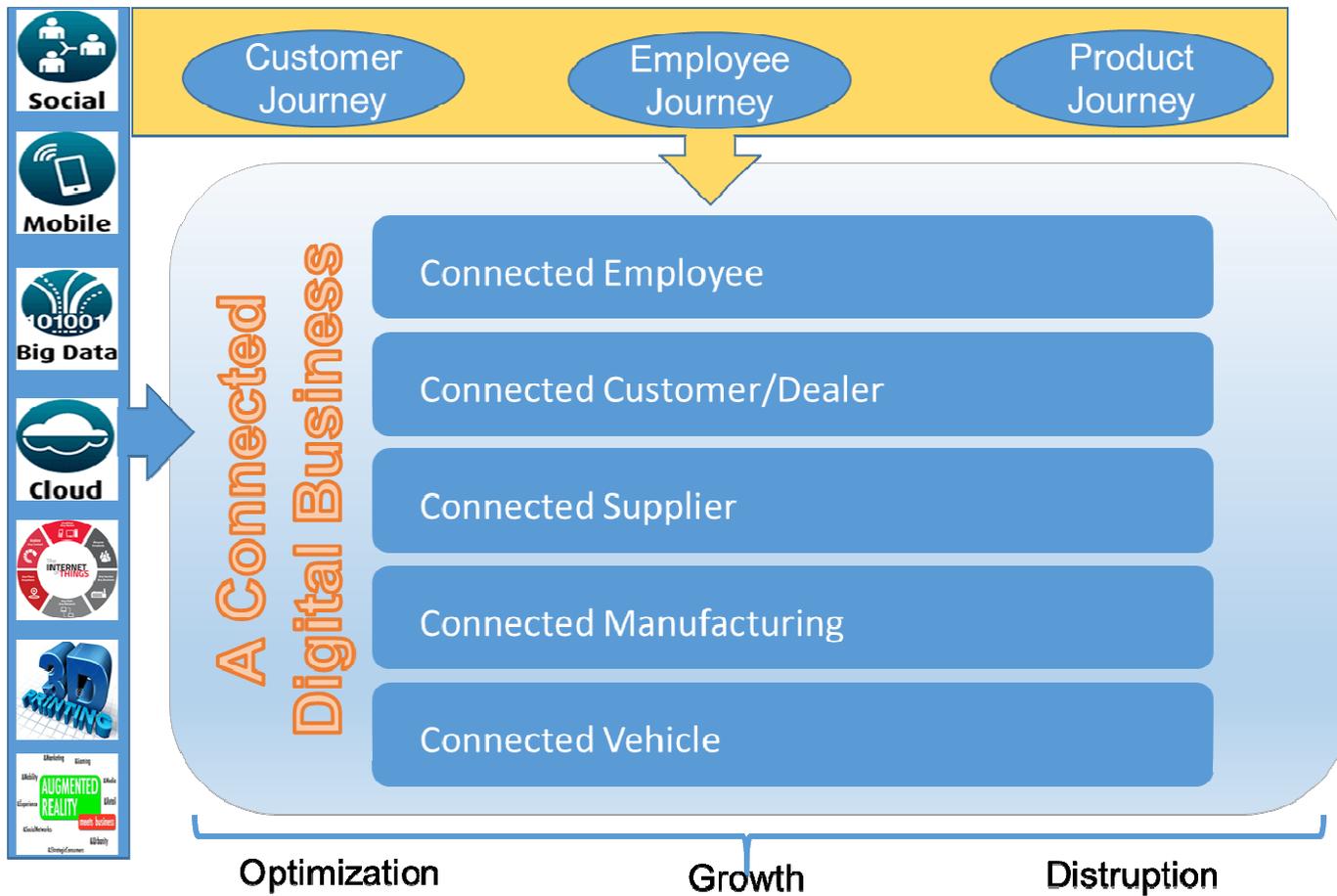
# Ford Otosan's Digital Journey



# FORD OTOSAN DIGITAL STRATEGY



<sup>1</sup> Enablers



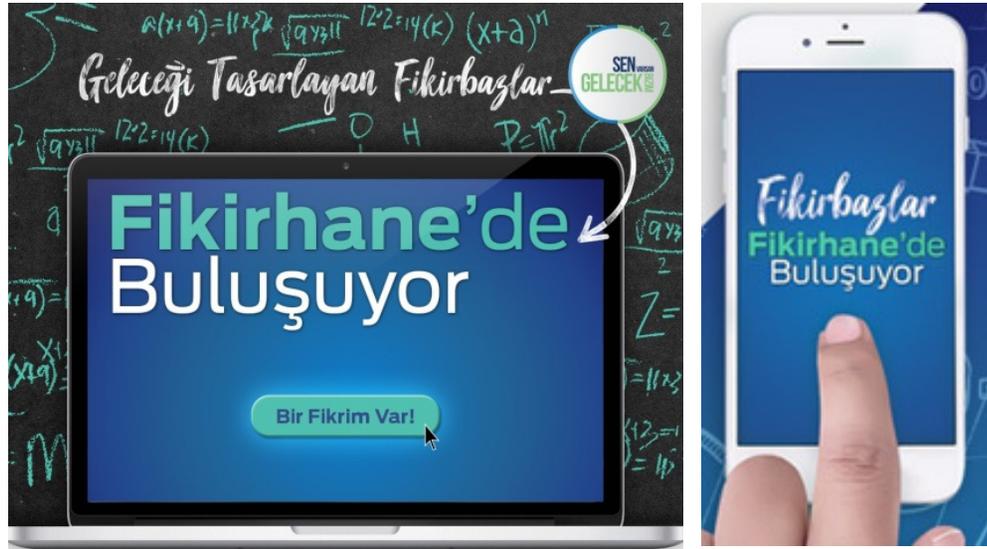
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# Innovation

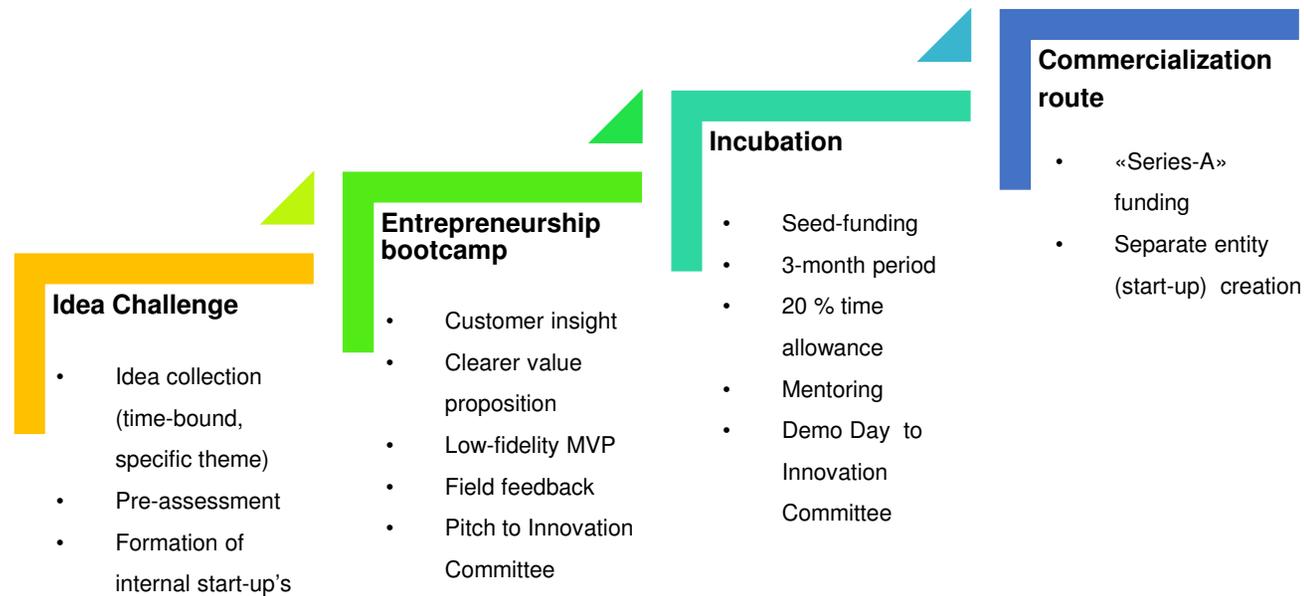


# DIGITAL PLATFORM FOR IDEA MANAGEMENT

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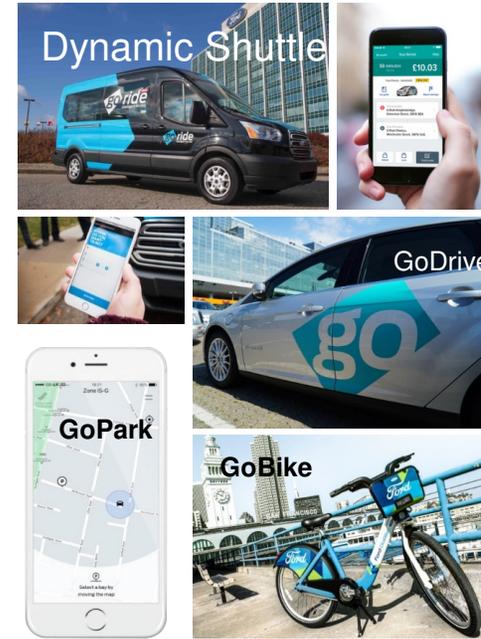


**Digital, interactive , transparent platform (web and app-based) with gamification, open to all employees.  
> 3x increase in number of ideas compared to legacy system.**



**Systematic, Continuous Program for Corporate Entrepreneurship:  
Enabler For Processing Business Model Innovations Outside The Framework Of Daily Operation**

# FIRST IDEA CAMPAIGN: SMART MOBILITY SOLUTIONS FOR ISTANBUL



Employees encouraged to submit their business model ideas in line with Ford's Smart Mobility vision



2-week off-site intensive bootcamp for multi-disciplinary «internal start-ups»:  
Customer insight, initial value proposition and MVP testing (with external mentoring from VC managers)

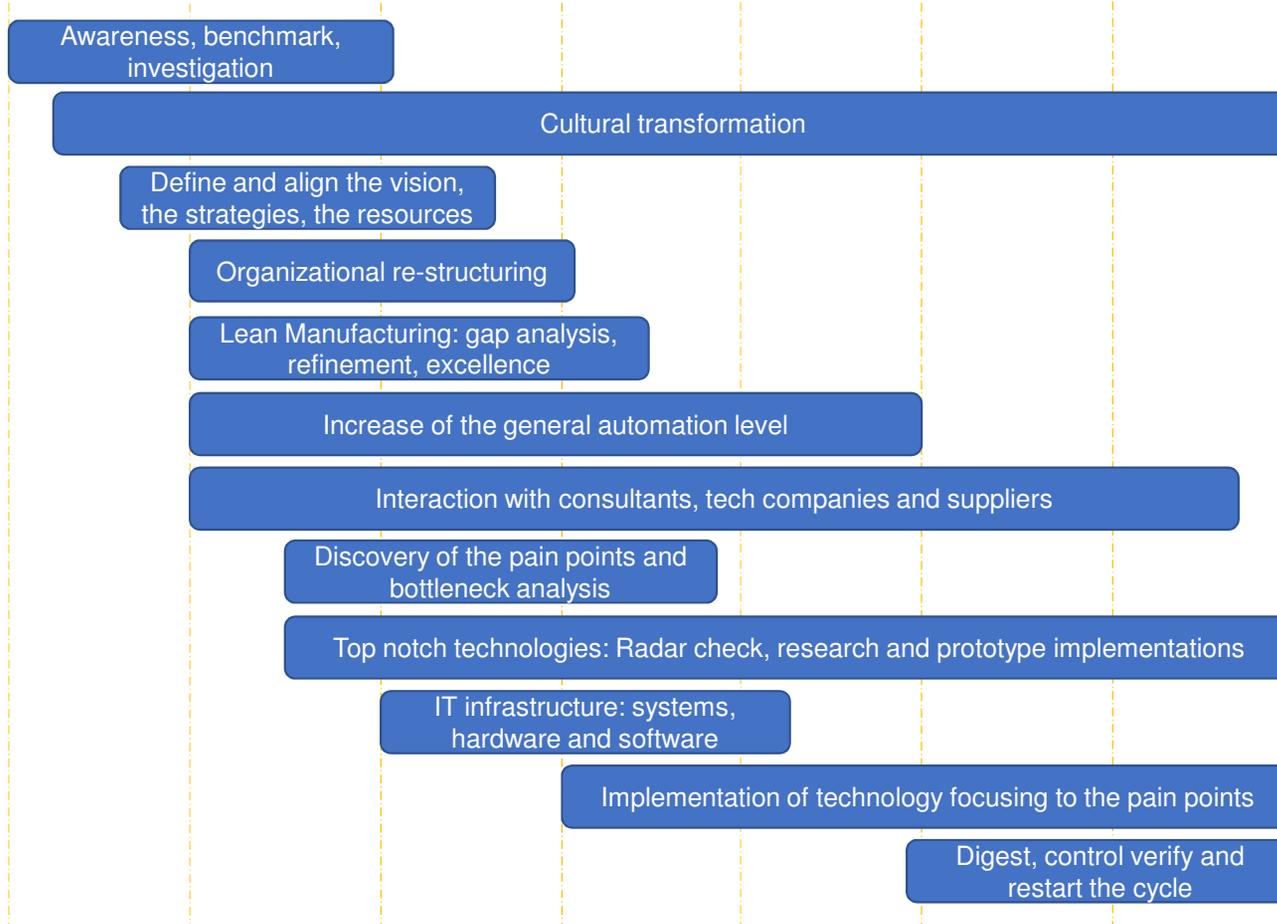


**Objective: Initiate Systematic Engagement With Ecosystem Partners For Innovation In 2017**

# Smart Manufacturing



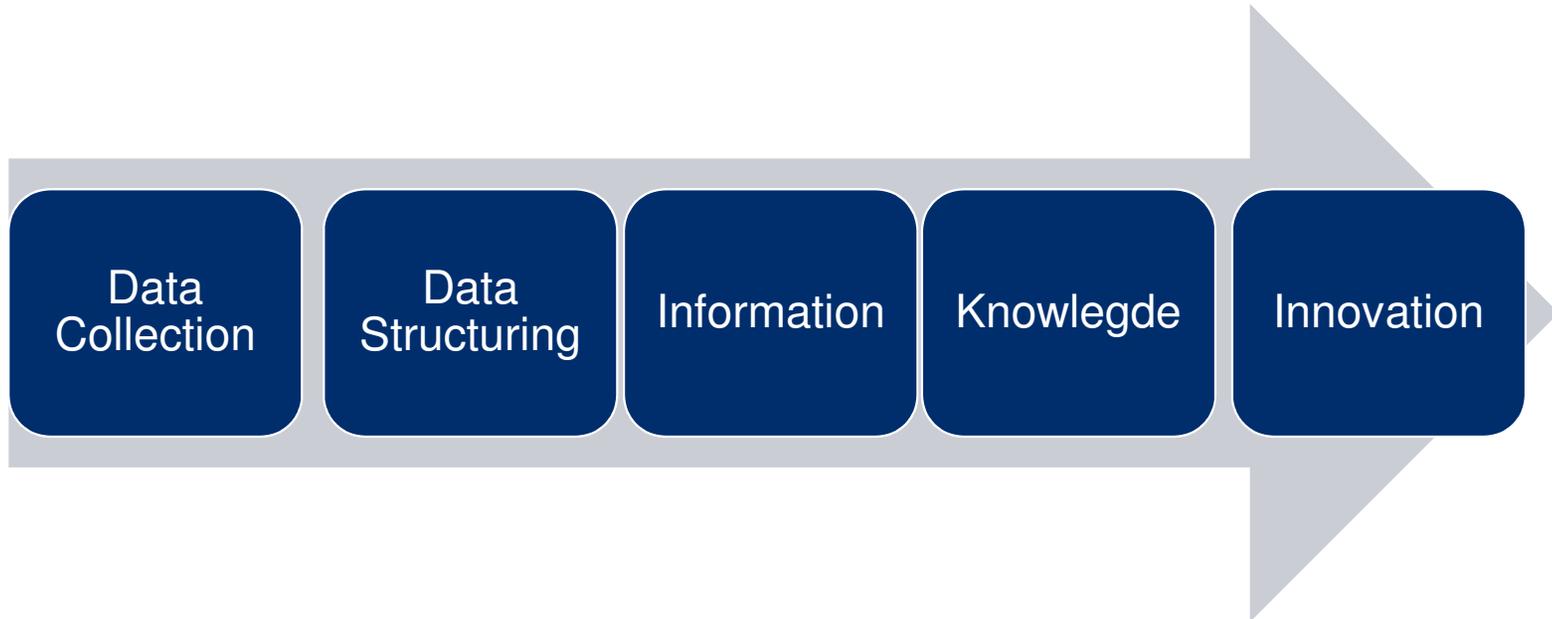
# SMART MANUFACTURING DEPLOYMENT PLAN



# DIGITAL JOURNEY FROM DATA TO INNOVATION

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**Everything is about data**

Source: The Digital Transformation, Smart Manufacturing Industry 4.0, John Fleming

# SHOP FLOOR IMPLEMENTATIONS

## Collaborative Robots



Part loading process



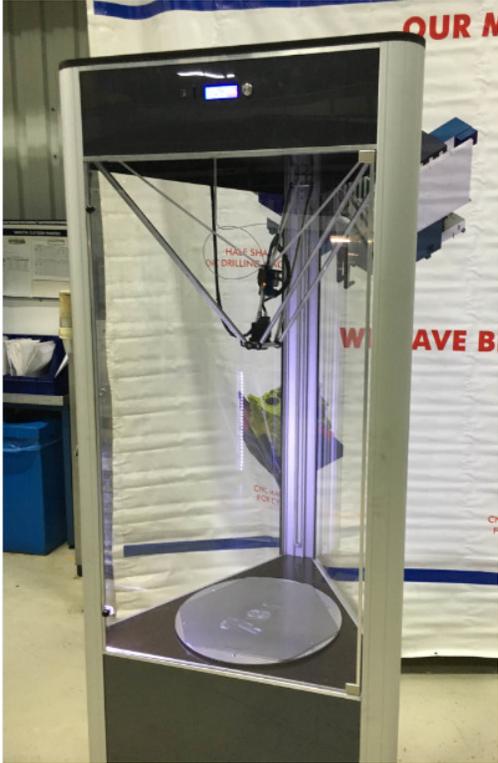
Headlamp adjustment process



Engine oil filling process

Source: Ford Otosan Plant Innovation Meeting Presentation

# SHOP FLOOR IMPLEMENTATIONS



3D Printing



Drone



Predictive sensors



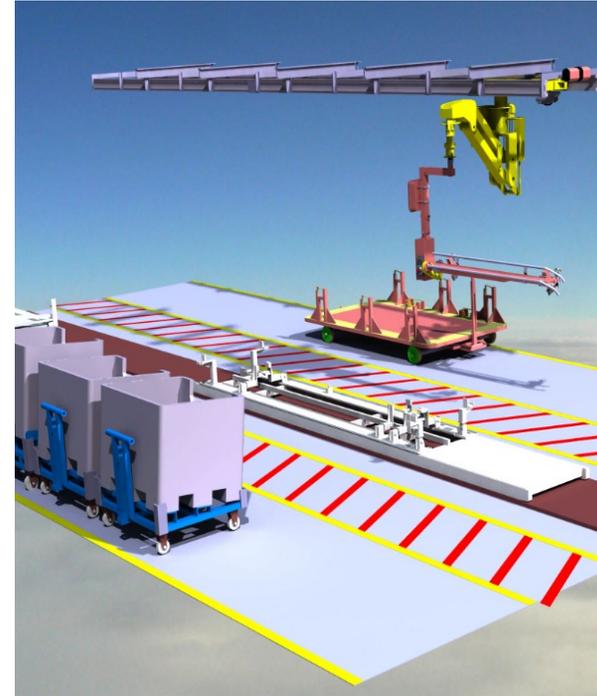
Smart forklift

Source: Ford Otosan Inönü Plant Innovation Meeting Presentation



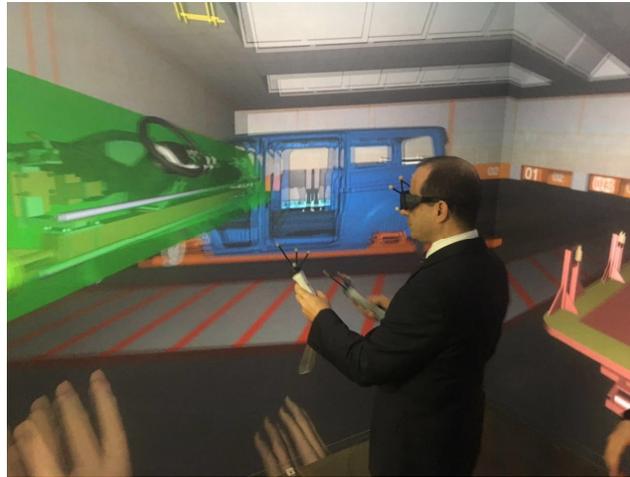
# SHOP FLOOR IMPLEMENTATIONS

## Digital Production – Virtual Build



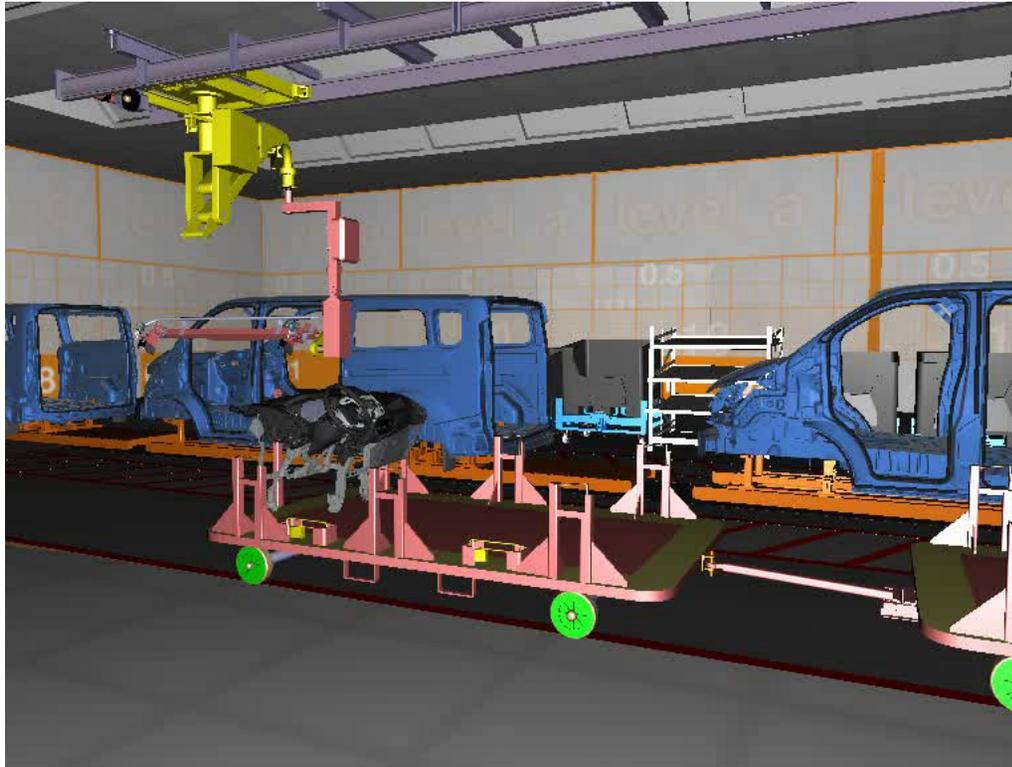
# SHOP FLOOR IMPLEMENTATIONS

## Digital Production – Virtual Build



# SHOP FLOOR IMPLEMENTATIONS

## Digital Production – Virtual Build





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# Thank You

