

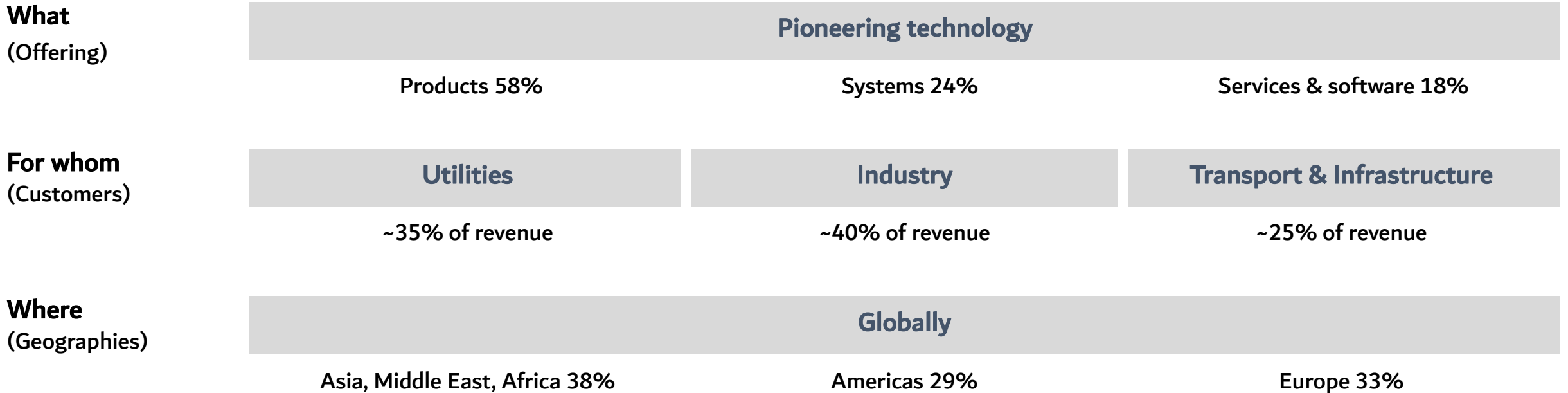
A large industrial robot arm, primarily blue and grey, is shown in a factory setting. The robot is actively welding a metal component, which results in a dense spray of bright orange and yellow sparks emanating from the point of contact. The background is filled with the complex metal framework of the factory, including beams and pipes, illuminated by various industrial lights. The overall scene conveys a sense of advanced manufacturing technology.

# Robotics in Iran

[www.robotic.behnadenergy.com](http://www.robotic.behnadenergy.com)

# Robotic in simple terms

A pioneering technology leader



# Robotics in Iran

## Offering

### Complete robot portfolio:

collaborative robot, articulated robot, paint robot, parallel robot, SCARA robot,

Application equipment and software

Standardized manufacturing cells for material handling, machine tending, welding, cutting, painting and finishing

Engineering for systems in press automation, body-in-white, paint processes, power train assembly

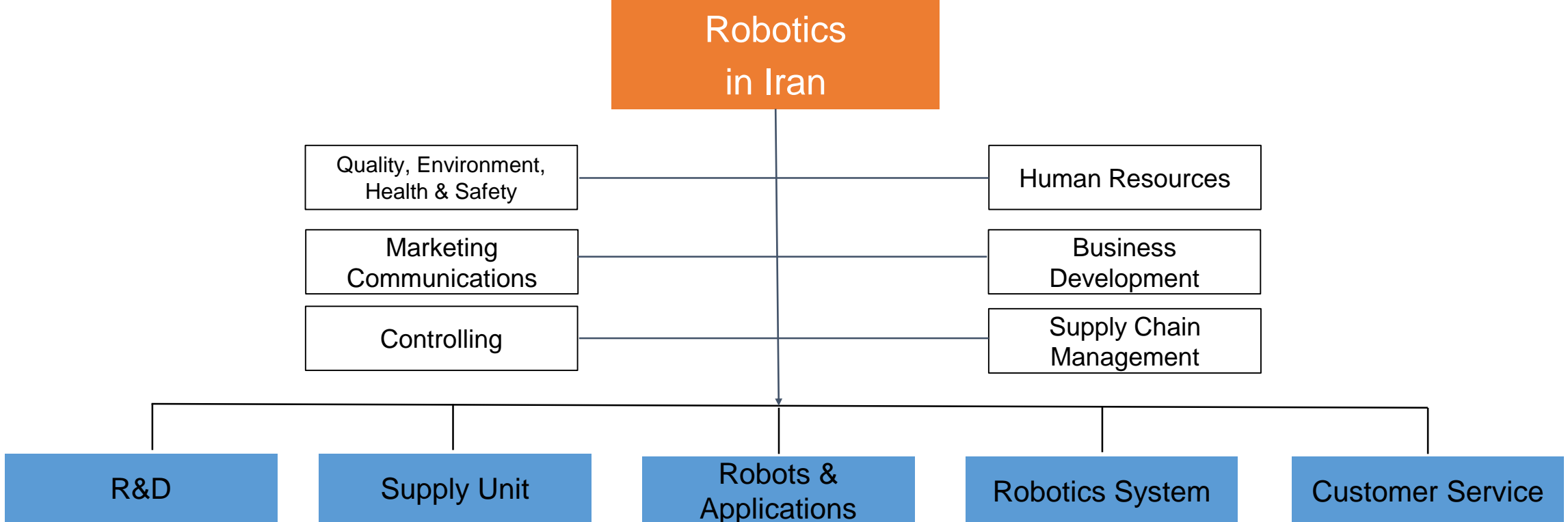
Industry applications: welding, cutting, picking, packing, palletizing, handling, machining, assembling, testing, etc.

Product and system service



# ABB Robotics in Iran

## Organization



# Manufacturing



Start up in 2005, the first international robotics company to localize manufacturing

30+ types of products

The only paint robot production line in ABB

20,000+m2 production area

Products serve global market

Collaborative robot



Parallel robot



6-axis robot



Paint robot



SCARA robot



4-axis robot



# Application

## Press Automation

### Offering

#### Standards

- Destacking tables/ Magnet arms/ Aluminum fanning/ Robot stands/ Conveyors/ATC/Dressings/Brusher ...

#### Solutions

- Destacker/Loader/Interpress/Unloader/Racking/Vision Inspection/6-Axis Lines/7-Axis Lines/TRX-Lines/Hot Stamping Lines/Transfer Lines/DDC ...

#### Function Packages

- StampPack

### Industries



#### Automotive industry

- OEM
- Tier 1/ Tier 2

#### General industry

- White goods
- Metal/Forging
- 3C ...

### Customers



# Application

## Body-in-White

### Offering

Flexible fully-automated or semi-automated body shop

Greenfield and brownfield turnkey projects in domestic and overseas market

Full range of body shop standard products and solutions:

- Robotic and Gate Framer
- Roller Hemming, Table Top Hemming
- Conveying systems, Programmable positioners
- Spot welding equipment etc.

### Industries



Automotive industry

- OEM
- Tier 1/ Tier 2

### Customers



长安福特



上汽通用汽车  
SAIC-GM



一汽-大众  
FAW-VOLKSWAGEN



华晨宝马

# Application

## Paint Automation

### Offering

- Paint robots
- Paint equipment
  - Color change unit
  - 2K mixer unit
  - GearPump unit
  - Compact CBS unit
  - IRB 5320 Workpiece Positioner
  - IRB 5330 Paint External Axis Kit
  - Air control unit
  - Atomizers
  - Paint application packages
  - Feather duster
- PLC & Graphical User Interface
- Lab test

### Industries



#### General industry

- Bumper painting
- 3C production painting

#### Automotive industry

- Cleaning application
- Sealing application
- Painting application
- Quality check application

### Customers





# Application

## Powertrain Assembly

### Offering

#### Assembly System

- Driveline assembly
- Engine assembly
- Cylinder head assembly
- Transmission assembly
- Green powertrain assembly

#### Robot Cells

- FlexWashers
- Robotic deburr
- Robotic vision guidance assembly
- Force controlled assembly

### Industries



#### Automotive Industry

- Engine
- Heavy Diesel
- Cylinder Head
- Transmission
- Transfer Case
- Axle
- Green Powertrain

### Customers



济南柴油机股份有限公司  
JINAN DIESEL ENGINE COMPANY LIMITED

# Application

## Welding & Cutting

### Offering

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#### Function Packages

- ArcPack
- CutLaserPack
- SpotPack
- WeldLaserPack

#### Standard Cells

- FlexArc
- FlexSpot
- FlexCutLaser
- FlexWeldLaser
- FlexInspect

### Industries

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#### Automotive OEMs&TIERS

- Car/Truck body parts
  - Chassis/ Seat parts
  - Instrument panel
  - Bumper
  - Exhaust system
  - Fuel tank
  - Lamp
  - Battery Tray
- #### GI Jobshops
- Construction machinery
  - Shipping industry
  - Switch cabinet, elevators

### Customers

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# Application

## Packaging Automation

### Offering

- Packaging Function Packages
- Packaging Application Solutions
- Technical Supports for packaging applications
  - Gripper technology
  - Simulations
  - Lab tests and analysis
  - Vision technology
  - Technical Training
  - Installation, programming and commissioning support

### Industries

- Food & Beverage
- White Goods
- Tobacco
- Chemical & Cosmetics
- Logistical
- Animal fodder
- Medicine
- Brick & Construction materials
- Battery
- Tire
- Education
- Others

### Customers



只为优质生活



# Application

## Handling & Machining

### Offering

#### Peripheral equipment

- Flaming bar
- Plasma gun
- Fixture
- 3D vision centering device
- Sheet unstack device
- Inspection device
- Safety guard
- Conveyor
- Multi-function gripper
- E.O.A.T

#### Software

- Track motion

#### Offline programming

#### Solutions

### Industries

#### Industries

- Metal
- Plastic & Chemical Products
- Electronics (3C)
- Wheels Assembly, etc.

#### Main application fields

- Deburring
- Finishing/Polishing/Grinding
- Flaming & plasma treatment
- Forging
- Machine tool/tending
- Mechanical cutting
- Metal casting
- Plastic molding
- Waterjet cutting

### Customers



**FOXCONN**<sup>®</sup>  
富士康科技集團

**SUPOR**<sup>®</sup> 苏泊尔卫浴



# Application

## Assembly & Testing

### Offering

#### Small parts assembly cell/system

- Screw driving
- Inserting
- Assembly/Disassembly
- Mounting

#### Material handling cell/system

- Packing and placing
- Parts transfer
- Parts handling
- Sorting

#### Inspection cell/system

- Product inspection
- Testing
- Quality control

#### Robot

- 4-axis robot, SCARA
- 6-axis robot
- Collaborative robot (Camera-based), YuMi

#### Flex Feeder

### Industries

#### 3C

- Assembly and test of custom chips, Automated board testing, Aerospace electronic components assembly
- Inspections of PC boards, Automated cleaning of circuit board components

#### Food packaging

- Meat Packaging, snack packaging, Box cutting and taping, Plastic component packaging
- Meat/ snack handling operations, Vegetable picking & cutting, Produce packaging

#### Medical/Pharmaceutical

- Lab automation & drug manufacturing operations
- Custom prescription filling, Tablet packaging

### Customers



World-class 3C brands, e.g. HuaWei, etc.

# Application

## Logistics

### Offering

- Logistics Function Packages
- Bin & Case Storage Solution
- Picking Solution (Bin, Item, etc.)
- Distribution & Sortation Solution
- Technical Supports for Logistics applications
  - Gripper technology
  - Simulations
  - Lab tests and analysis
  - Vision technology
  - Technical Training
  - Installation, programming and commissioning support

### Industries

- E-commerce
- 3PL
- Auto Parts
- Garment & Fashion
- Pharmaceutical
- Tobacco
- Chemical & Cosmetics
- Food & Beverage
- Furniture
- Battery
- Tire
- Others

### Customers



# Customer Service



We care about the good health of the robot system, from the moment it is installed to the end of its service life.

We don't believe in "one size fits all".

We tailor a service package in close cooperation with you – and then we stand ready to help increase the performance, uptime and lifetime.

Service offering:

- Parts & Logistics: right part, right place, right time.
- Field Service: assists you for the best possible uptime
- Training: reduce your costs and improve efficiency with professionally trained employees
- System Service: offers solutions for life extension of your equipment

Securing your productivity. Anytime. Anywhere.

# Robotics

Continuous investment on innovation

## Product



## Application



**Body-in-White**



**Powertrain Assembly**



**Packaging Automation**



**Assembly & Testing**



**Press Automation**



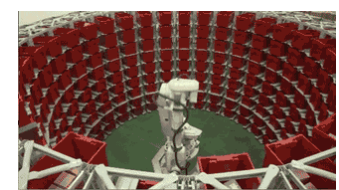
**Paint Automation**



**Welding & Cutting**



**Handling & Machining**



**Logistics**



# Robotics

## Fully localized value chain

### R&D



- Global R&D base for small robots
- 7 series of brand new robot models
- Robot controller
- Other standard products
- Industry specific applications

### Manufacturing



- Largest robot manufacturing base in terms of robot unit
- Produce 90%+ robot models
- Produce 90%+ of robots sold in China market
- Accumulated output 50,000+

### Sales



- Two way approach: direct and indirect
- Effective key account management
- Adopt regional sales strategy
- Keep on optimizing value provider network

### System Integration



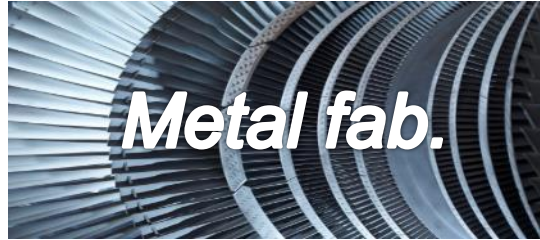
- Global center for Body-in-White, Powertrain, Assembly and Testing business
- 85%+ from local sourcing
- Pioneer of diversified applications in China market

### Service



- 100+ staff
- 24\*7 service
- Boast the largest bonded spare parts stock in industry
- Provide full service portfolio, from spare parts, urgent repair, field service to system service

# The industries we serve



# The customers we serve



VOLVO



长安福特



IVECO



GEELY



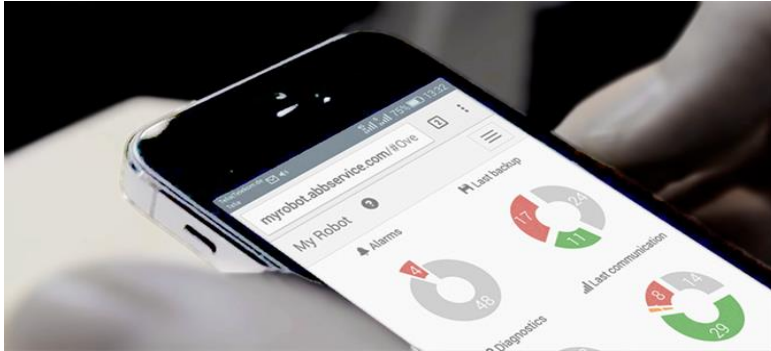
SUPOR 苏泊尔



# Technology outlook

## Simplification, collaboration and digitalization

### Simplification



Managing increased automation complexity with intuitive tools

Ease of programming removes key entry barrier for new users

Reducing cost & risk with new product lines, speeds launches

### Collaboration



Shifting the border of 'what can be automated'

Entirely new applications between people and robots

Ensures worker safety while increasing flexibility and agility

### Digitalization



Optimized efficiency through entire automation lifecycle

Actionable intelligence for greater reliability, fast recovery

Connecting automation islands across plants and value chains

The 'factory of the future' is characterized by flexibility and enabled by collaboration and digitalization