This is the first of a series of industry briefings which will take a closer look at specific companies and technologies that are making a difference in their respective markets.

The kinds of things we highlight are, for example, overall market size, projected growth, and the most successful companies and some of the crucial technologies driving the sector.

In this briefing, we take a look at the industrial robot, which has been the workhorse of the modern industrial era, building literally billions of cars and electrical items, as well as helping to move and handle billions more, along with helping to process raw materials more safely and efficiently.

Industrial robots have taken over all the dull, dirty and dangerous jobs in many, many sectors of industry, and they number in the millions worldwide now.

But their success as a technology could be said to be just beginning.

Most industrial robots have traditionally been large, hulking masses of metal and electrical power. Potentially dangerous to humans, they have been caged off and kept apart from their human colleagues.

Now, however, with smaller, more lightweight robots being designed to be intrinsically safer for humans through having sensors enabling them to slow down or stop when necessary, they are being called “collaborative” industrial robots, since they no longer need their cages and humans can work in close proximity, even physically handle them and move them around as they would any other power tool.
Fanuc has launched a new arc welding industrial robot. The Arc Mate 100iD is a successor to its Arc Mate 100iC/12, and is the first of an updated range Fanuc plans to launch, with this one being made available from September, 2017.

Matteo Ferrari, arc welding and laser robot product manager at Fanuc Europe, says: “The new Arc Mate 100iD welding robot reaches remarkable productivity improvements.”

**Dürr and BMW win award for painting method**

Dürr and BMW have won an award at the Surcar 2017 event for the companies’ joint development of a vehicle painting process. The companies received the award for technique for their concept of a “smart paint shop”.

The aim is to avoid redundancy in data collection and data analytics through an efficient use of existing software to fulfill joint targets regarding the increase of production uptime, process quality and overall equipment efficiency.

**Kuka wins designa ward for CyberTech robot**

Kuka has won a prestigious design aware from the Red Dot organisation, which runs a competition which analyses products from an extensive range of industries.

The award that Kuka won was in the Red Dot industrial product design category, and it was for its industrial robot, the KR CyberTech.

The jury said the KR CyberTech “stretches the limits of possibility in terms of speed and reach”.

**TAL showcases Brabo welding solution**

Indian company TAL Manufacturing Solutions is showcasing a new welding solution which features its own industrial robot, the Brabo.

The company, which is part of the Tata Motors group, is exhibiting the robotic welding solution at the Automation Expo, in Mumbai, India.

According to the Economic Times of India, the TAL Brabo robotic welding cell is priced at about $133,000 and is a “cost-effective” solution.

**Yaskawa adds new model to high-speed GP series**

Yaskawa Motoman has added a new robot model to its GP series of industrial robots.

Yaskawa says the “efficient, high-speed” Motoman GP25 robot is a new, compact robot that is ideal for assembly, dispensing, handling, material removal and packaging applications.

All axis speeds have been increased, says the company, some by more than 40 per cent, surpassing other robots in its class and delivering increased productivity.

**Kawasaki chuffed its robots in Hollywood movie**

Kawasaki is clearly very pleased with the appearance of “not one but two” of its industrial robots in the new Hollywood film, Transformers 5: The Last Knight.

The company has been crowing about its fame on its website.

The two Kawasaki RS010L industrial robots make a somewhat brief appearance in the Transformers film, in which Transformers and humans are at war and Optimus Prime has left Earth.

**Comau signs deals in Greece and Argentina**

Comau has signed deals with two new partner companies in Greece and Argentina.

In Greece, Comau has appointed the Nimac Group as its robotics distributor. Nimac is said to be one of the top manufacturers in the beam saws sector.

In Argentina, Comau has signed a new robotics and automation products partnership with the integrator SimAc. Simac has been providing automation solutions more than 10 years.
Even before the election of US President Donald Trump, there was a feeling that the US manufacturing sector was set for a new wave of growth, which will mean robotics and automation technologies would also see an upturn in demand.

And, according to research by Panjiva, the world’s largest industrial robot manufacturer, Fanuc, increased imports into the US by almost 100 per cent in January, compared to the same month the previous year.

US imports of industrial automation equipment, in general, reached a new high in December of $158 million, according to Panjiva data.

The figure represents a 25.9 per cent increase on a year earlier, and brings the quarterly total to a 38.9 per cent rise, and may be continued in January as seaborne imports increased 22 per cent.

US exports of industrial automation equipment also increased in December by 8.9 per cent, led by increased shipments to Mexico, by 44.7 per cent, and Canada, which were 48.8 per cent higher.

Web link: https://goo.gl/fAMKBi

Setting new records

More recent analysis of the North American market, this time by the Association for Advancing Automation has revealed that many more sales records were set in the areas of robotics, machine vision, motion control and motor technology for the first half of 2017.

The North American robotics market had its best opening half ever to begin 2017, setting new records in all four statistical categories – order units, order revenue, shipment units, and shipment revenue.

In total, 19,331 robots valued at approximately $1.031 billion were sold in North America during the first half of 2017, which is the highest level ever recorded to begin a year.

These figures represent growth of 33 per cent in units and 26 per cent in dollars over 2016.

Automotive related orders increased 39 per cent in units and 37 per cent in dollars, while non-automotive orders also grew 21 per cent in units and 10 per cent in dollars over the first half of 2016.

Web link: https://goo.gl/cGzTir

Location, location, location

And as to where in the US the industrial robots make their homes, a map produced by the Brookings Institution shows that they’re generally where you would expect them to be.

Brookings found that the state of Michigan, specifically Detroit, traditionally the motor town of the US, has more than 15,000 industrial robots installed.

That works out to about 8.5 robots per 1,000 workers in the area, says Brookings.

As well as Michigan, other areas with high numbers of robots are Ohio, with 20,400 robots, and Indiana, with 19,400 robots.

In total, the US has about 233,305 industrial robots at work, says Brookings.

Web link: https://goo.gl/13Uai7

More robots on the way
Infographics & tables

Many research companies are tracking the industrial robotics and automation market, so figures may vary. But most agree the market is set to grow every year for the next five to 10 years. In the chart on the right, we highlight Markets and Markets’ data, and below is RoboticsAndAutomationNews.com’s own audit.

World’s largest industrial robot manufacturers by number of installations  

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* Estimates based on a variety of sources – not necessarily from the literature of the company in question.