

# Robot arms replace factory hands

AFP, Paris  
Donald Trump has been crowing as companies including Ford renounce plans to move factories to Mexico. But the main beneficiaries of this shift back to the US aren't saying much by way of celebration -- industrial robots don't tend to speak.

While globalisation's detractors blame countries such as China and Mexico for stealing the factory jobs of the West, experts point to less obvious culprits which are harder to scapegoat and to overcome in an interconnected economy with complex supply chains.

Since US manufacturing employment peaked in the late 1970s, according to Michael Hicks of the Center for Business and Economic Research at Ball State University in Indiana, "95 percent of job losses were due to productivity improvements including automation and computer technology, rather than trade".

Indiana is one of the rust-belt states where Trump triumphed in November, and the president-elect has promised a punitive border tax against outsourcing companies as he bids to become "the greatest jobs producer that God ever created".

But while the US economy is pumping out manufactured goods in record volumes, it is achieving that feat with 7.3 million fewer factory hands than in 1979, government figures show.

Automation has transformed the productivity of manufacturing since industrial robots first started painting, cutting, welding and assembling in the 1960s.

And experts point to more recent innovations such as artificial intelligence, management apps and 3D printing as new threats to shop-floor workers as well as to white-collar staff.

Hicks -- who has known former Indiana governor Mike Pence, Trump's incoming

vice president, for years -- dismissed recent announcements by Ford, Indiana air-conditioning brand Carrier and others as "political theatre".

"The apparent change of heart of these American companies is due to the hard math of expected tax cuts and regulatory changes (under the Trump administration)," he told AFP in a phone interview, noting that under company projections, robots rather than wages will account for the bulk of planned investment that is being redirected from Mexico to the US.

Vows to renegotiate trade pacts, or declare China a currency cheat, played well for Trump on the campaign trail but trends such as automation have already rendered much low-skilled US labour obsolete.

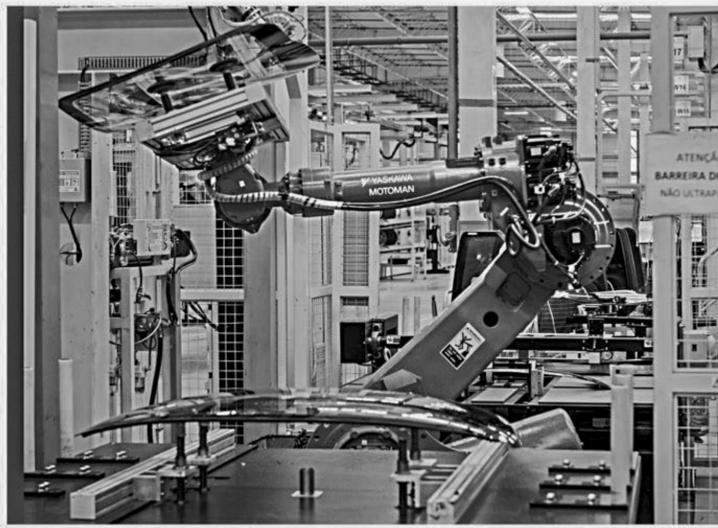
The total output of US manufacturing rose more than 250 percent from 1980 to 2015, but its workforce slumped by roughly 40 percent in that time, according to analysis by the Brookings Institution in Washington.

"These diverging lines -- which reflect the sector's improved productivity -- highlight a huge problem with Trump's promises to help workers by reshoring millions of manufacturing jobs," Brookings expert Mark Muro wrote in a blog post.

"America is already producing a lot. And in any event, the return of more manufacturing won't bring back many jobs because the labour is increasingly being done by robots."

Annual data from the International Federation of Robotics show an inexorable rise in the worldwide use of industrial robots. China is now the biggest market for them.

Even if jobs did return, Western consumers are likely to balk at paying the higher prices that companies would have to charge to reflect the higher input prices -- every-



Automation and computer technology now cause around 95 percent of job losses.

thing from wages to property leases and electricity tariffs -- of making those goods at home.

Take television manufacturing. Had that stayed in America, experts say, each set would cost hundreds of dollars more than they do now on average, limiting their affordability. Households would have stuck with one TV in the living room, instead of several dotted around the home.

"Trade doesn't kill jobs, it protects consumption," Hicks said, while also stressing that globalisation had created millions more jobs in Western nations' services and logistics sectors than it has destroyed in industry.

So if those manufacturing jobs are gone forever -- and new developments such as

machine learning and nanotechnology portend a "Fourth Industrial Revolution" -- what can be done to assure the future of workers in the developed world?

Some ideas are in their policy infancy, such as a universal basic income, but others are well-known and perhaps more pressing than ever, including better education and re-training.

Such discussions will inform the World Economic Forum in Davos, Switzerland, coming up in the same week that sees Trump inaugurated as the 45th US president on January 20.

"We are at some kind of turning point in history," WEF founder Klaus Schwab said. "We need new concepts. We cannot have just populist solutions."



Shehzad Munim, managing director of British American Tobacco Bangladesh, and Abrar A Anwar, CEO of Standard Chartered Bank Bangladesh, sign a partnership deal at an event for Supply Chain Finance, a financing programme offered by the bank for the dealers and suppliers of its corporate clients. The global programme is part of the bank's "Banking the ecosystem" initiative, which aims at deepening relationships with corporate clients and their channel partners.

**গণপ্রজাতন্ত্রী বাংলাদেশ সরকার**  
বাংলাদেশ পুলিশ  
অধিনায়কের কার্যালয়  
১০ আর্মড পুলিশ ব্যাটালিয়ন  
বরিশাল  
তারিখ: ১৪/০১/২০১৭খ্রিঃ

**দরপত্র বিজ্ঞপ্তি**

"The Public Procurement Act-2006" & "Regulation-2008" এর তদীয় সশোভিত বিধি মোতাবেক ২০১৬-২০১৭ অর্থ বছরে ১০ এপিবিএন, বরিশালের নিম্নবর্ণিত মেসারস/সংস্কার কাজ বাস্তবায়নের জন্য প্রকৃত বাংলাদেশের ঠিকাদার/নির্মাণ প্রতিষ্ঠানের দিকট হইতে নিলামোহস্বত্ব খামে প্রতিযোগিতামূলক দরপত্র আহ্বান করা যাইতেছে।

০১।	মন্ত্রণালয়/বিভাগ	শ্রম মন্ত্রণালয়, বাংলাদেশ পুলিশ।
০২।	দরপত্র সম্পাদনকারী প্রধান	অধিনায়ক (পুলিশ সুপার), ১০ আর্মড পুলিশ ব্যাটালিয়ন, বরিশাল।
০৩।	দরপত্র সম্পাদনকারীর জেলা/সংস্থা	১০ আর্মড পুলিশ ব্যাটালিয়ন, বরিশাল।
০৪।	দরপত্রের সূত্র ও তারিখ	এপিবি(১০)/প্রশাঃ/৩৩৩ তারিখ-১৪/০১/২০১৭খ্রিঃ।
০৫।	দরপত্রের পদ্ধতি	উন্মুক্ত দরপত্র পদ্ধতি।
০৬।	বাজেট এন্ড নোস অব ফান্ড	রাজস্ব বাজেটের আওতায় পুলিশ বাজেটের কোড নং "৩-২২১১-০০০১-৪৯৯১ অন্যান্য মেসারস ও সংস্কার" এবং নং "৩-২২১১-০০০১-সদর দপ্তর-৭০১৬-অন্যান্য ভবন ও অবকাঠামো নির্মাণ।
০৭।	দরপত্র প্রকাশের তারিখ	২১/০১/২০১৭খ্রিঃ।
০৮।	দরপত্র সিডিউল সর্বশেষ প্রান্তির তারিখ ও সময়	০৭/০২/২০১৭খ্রিঃ ১৪:০০ ঘটিকা পর্যন্ত।
০৯।	দরপত্র জমা দেওয়ার সর্বশেষ তারিখ ও সময়	০৯/০২/২০১৭খ্রিঃ তারিখ ১২:০০ ঘটিকা পর্যন্ত।
১০।	দরপত্র খোলার তারিখ ও সময়	০৯/০২/২০১৭খ্রিঃ তারিখ ১২:০০ ঘটিকায় দরপত্রোত্তীর্ণ/মোনোচিত প্রতিনিধির উপস্থিতিতে (যদি কেহ উপস্থিত থাকেন)।
১১।	দরপত্র মূল্যায়নের তারিখ ও সময়	১২/০২/২০১৭খ্রিঃ তারিখ ১২:০০ ঘটিকা।
১২।	দরপত্র প্রাপ্ত স্থান	১০ আর্মড পুলিশ ব্যাটালিয়ন, বরিশাল, অধিনায়ক, রায়-৮, বরিশাল ও ডিআইজি, এপিবিএন, বাংলাদেশ পুলিশ, ঢাকা এর কার্যালয়।
১৩।	দরপত্র দাখিল এবং খোলার স্থান	অধিনায়কের কার্যালয়, ১০ আর্মড পুলিশ ব্যাটালিয়ন, বরিশাল।
১৪।	দরপত্রাদানার যোগ্যতা ও দরপত্রের সহিত যে সকল কাগজপত্র জমা প্রদান করিতে হইবে	(১) ট্রেড লাইসেন্স (২) হালনাগাদ আয়কর সার্টিফিকেট (৩) ভ্যাট রেজিস্ট্রেশন সার্টিফিকেট (৪) ব্যাংক সলভেন্সি সার্টিফিকেট (৫) সর্বশ্রেষ্ঠ কাজের অভিজ্ঞতার সনদ (৬) নাগরিকত্ব সনদ এবং (৭) সর্বশ্রেষ্ঠ কাজ বাস্তবায়নের ঠিকাদারী লাইসেন্স। দরপত্র জয়ের সময় ১নং হইতে ৭নং পর্যন্ত মূল কাগজপত্র প্রদর্শন করিতে হবে।

১৫।	কাজের বিবরণী/কাজের নাম	সিডিউলের মূল্য	দরপত্র জামানতের পরিমাণ	কাজ সমাপ্তির সময়
(ক)	১০ম এপিবিএন, বরিশাল এর অফিস ভবন মেসারস/সংস্কার কাজ	৫০০/-	২৭,০০০/-	৫০ দিন
(খ)	১০ম এপিবিএন, বরিশাল এর এমটি গ্যারেজ মেসারস/সংস্কার কাজ	৫০০/-	১০,০০০/-	৫০ জন
(গ)	১০ম এপিবিএন, বরিশাল এর রান্নাঘর মেসারস/সংস্কার কাজ	৫০০/-	১০,০০০/-	৫০ জন
(ঘ)	১০ম এপিবিএন, বরিশাল এর আর্বিপ পোস্ট গার্ড রুম মেসারস/সংস্কার কাজ	৫০০/-	১৯,৫০০/-	৫০ জন
(ঙ)	১০ম এপিবিএন, বরিশাল এর ক্যান্টিন মেসারস/সংস্কার কাজ	৫০০/-	২৬,৫০০/-	৫০ জন
(চ)	১০ম এপিবিএন, বরিশাল এর অফিসার্স মেস মেসারস/সংস্কার কাজ	৫০০/-	১৭,৫০০/-	৫০ জন
(ছ)	বরিশাল এপিবিএনে টিআরসিদের প্রশিক্ষণের জন্য অবস্টাকল নির্মাণ (রোম্প জাম্প, ডিফিং রিম, লং জাম্প, হাইজাম্প, ডিফি ওয়াল, এক্সপ্লোজিভ, ওয়াল, গ্যাটার ডিশ, রোপ ক্লাইম্বিং ও ব্যালান্স) কাজ।	৫০০/-	৪৫,৫০০/-	৫০ দিন

১৬। বিশেষ জ্ঞাতব্যঃ  
ক। ব্যক্তি বা প্রতিষ্ঠানের স্বত্বাধিকারীর স্বাক্ষরিত প্যাডে আবেদনপূর্বক বর্ণিত দরপত্র বিক্রয়ের স্থান হইতে অফিস চলাকালীন সময় পর্যন্ত দরপত্র সংগ্রহ করা যাইবে।  
খ। দরপত্র সংক্রান্ত অন্যান্য তথ্যাবলী দরপত্র সংগ্রহকালে নিম্নস্বাক্ষরকারীর কার্যালয় হইতে জানা যাইবে।  
গ। অনুমোদিত বরাদ্দের আলোকে কার্যদেয় প্রদান করা হইবে। এতদসংক্রান্ত কোন আপত্তি গ্রহণযোগ্য হইবে না।  
ঘ। দরপত্রে উল্লিখিত সময়ের মধ্যে কার্য সম্পাদন করিতে হইবে।  
ঙ। দরপত্র আহ্বানকারী কর্তৃপক্ষ যে কোন সময় কারণ মর্মানো ব্যতীত দরপত্র বাতিলের ক্ষমতা রাখে।

আরু নাছের মোহাম্মদ খালেদ  
বিপি-৬৭৯০৬২৫৬২  
অধিনায়ক (পুলিশ সুপার)  
১০ আর্মড পুলিশ ব্যাটালিয়ন  
বরিশাল  
ফোনঃ ৭১৬৬২ (অফিস)  
ই-মেইলঃ co10ap@police.gov.bd

জিডি-১২২

## Emission probes could widen beyond Renault: French minister

REUTERS  
A judicial investigation into diesel emissions testing in France could widen beyond Renault after tests showed other carmakers had exceeded the authorised levels, the French environment minister said on Sunday.  
Shares in Renault fell more than 4 percent to their lowest level in around a month on Friday after a source at the Paris prosecutor's office said it had launched a judicial probe into possible cheating on exhaust emissions at the French carmaker.  
Volkswagen's admission that some of its diesel vehicles were fitted with software designed to hide the true level of emissions they produced has highlighted that most cars spew out far greater amounts of health-threatening nitrogen oxide in everyday driving conditions than in laboratory tests. "A number of anomalies were noted on Renault vehicles. The controls performed far exceeded the permissible standards. So there could be other investigations," Environment Minister Segolene Royal said.

## China steel exports fall from record in relief for global steelmakers

REUTERS, Manila  
China's steel exports fell in 2016 from a record in the previous year, dragged down by improved demand at home and Beijing's resolve to tackle overcapacity, in a relief for steelmakers elsewhere that have been hit by cheap Chinese shipments.  
China's exports could slip further this year, analysts and industry officials say, as Beijing strengthens its supply-side reforms and overseas markets fight against being flooded with Chinese products.  
China's exports of steel products fell 3.9 percent from the previous month to 7.8 million tonnes in December, customs data showed on Friday. Full-year export volumes dropped to 108.46 million tonnes from a record 112.4 million tonnes in 2015, Reuters calculations showed.  
"It's a relief for steel producers globally, especially in ASEAN," said Roberto Cola, vice president of the ASEAN Iron and Steel Council.  
About a third of China's steel exports go to member countries of the Association of Southeast Asian Nations (ASEAN).  
Trade cases filed by countries from Asia to Europe against Chinese steel products as well as improved domestic demand may have helped limit China's exports this year, said Cola.  
"But I think the big factor was the shutdown of many steel plants due to China's anti-pollution measures which had curbed volume for export," he said.  
China shut at least 45 million tonnes of steel production capacity last year, meeting its target, in a drive to address a glut through 2020.  
"The supply-side reform created some persistent production disruption so China didn't produce as much as it would have in an unconstrained market," said Andrew Driscoll, head of research at CLSA.  
China this week unleashed its boldest reform plan so far for its bloated steel sector, saying it will eliminate all production of low-quality steel products by the end of June, a move analysts say could dent exports further.

**Government of the People's Republic of Bangladesh**  
Office of the Executive Engineer  
Education Engineering Department  
Barisal Zone

### Invitation for Tenders (IFT)

1.	Ministry/Division	: Ministry of Education (MOE).
2.	Agency	: Education Engineering Department (EED).
3.	Procuring entity name	: Executive Engineer, Education Engineering Department, Barisal Zone.
4.	Procuring entity code	: 2571
5.	Procuring entity district	: Barisal/Jhalakathi District.
6.	Invitation for	: Works (Vertical Extension).
7.	Invitation Ref. No.	: 37.07.0000.015.19.845.13.1029 Date: 01.03.2016
8.	Invitation Notice No.	: 07/NON-GOVT.COLLEGE(VE)/EED/BZ/2016-2017 Date: 11/01/2017

**KEY INFORMATION**

9.	Procuring method	: Open Tendering Method (OTM) National.
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**FUNDING INFORMATION**

10.	Budget and source of fund	: GOB.
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**PARTICULAR INFORMATION**

11.	Project code	: 5-2531-5015
12.	Project name	: Development of Selected Non-Government Colleges along with ICT Facilities for Improving Quality of Education.
13.	Tender package No.	: 01 (one) to 10 (ten).
14.	Tender package name	: Stated in the Sl. No. 24
15.	Tender publication date	: Before or on 18/01/2017
16.	Tender last selling date	: 12/02/2017 (Office hour).
17.	Tender closing date and time	: 13/02/2017 up to 1:00pm.
18.	Tender opening date and time	: 13/02/2017 up to 3:00pm.
19.	Name & Address of the office(s):	
(a)	Selling tender document (principal)	: Office of the Executive Engineer, Education Engineering Department, Barisal Zone, Barisal.
(b)	Selling tender document (others)	i) Office of the Deputy Commissioner (DC), Barisal/Jhalakathi District. ii) Office of the Superintendent of Police (SP), Barisal/Jhalakathi District.
(c)	Receiving tender document	i) Office of the Executive Engineer, Education Engineering Department, Barisal Zone, Barisal. ii) Office of the Deputy Commissioner (DC), Barisal District. iii) Office of the Superintendent of Police (SP), Barisal District.
(d)	Opening tender document (place)	: Office of the Executive Engineer, Education Engineering Department, Barisal Zone, Barisal.

**INFORMATION FOR TENDERER**

20.	Eligibility of tenderer	(a) Minimum last 5 (five) financial years of general experience of the tenderer in construction work. (b) Having experience in successful completion of a building work (similar nature) in a single work order of (i) Tk 130.00 lac for Package No. 1, (ii) Tk 90.00 lac for Package No. 2, 3, 4, 5, 6, 7, 8, 10 & (iii) Tk 50.00 lac for Package No. 9 in government/semi-government organisation of Bangladesh during last 5 (five) financial years. (c) The tenderer shall have minimum liquid asset must be supported by bank statement (within date 11/01/2017 to 13/02/2017) of (i) Tk 40.00 lac for Package No. 1 (ii) Tk 30.00 lac for Package No. 2, 3, 4, 5, 6, 7, 8, 10 & (iii) Tk 20.00 lac for Package No. 9. (d) Who have minimum annual average construction turnover in the last five financial years (2011-2012 to 2015-2016) of (i) Tk 70.00 lac for Package No. 01, (ii) Tk 60.00 lac for Package No. 2, 3, 4, 5, 6, 7, 8, 10 & (iii) Tk 50.00 lac for Package No. 9. (e) Satisfying other criterias laid down in the tender data sheet (TDS) of the tender documents.
21.	Brief description of works	: Civil, sanitary, water supply and electrical works.
22.	Price of tender document (Tk)	: Taka 2000.00 (two thousand) only for each package (non-refundable).
23.	Requisite amount of tender security should be Pay Order/Bank Draft	: In favour of the Executive Engineer, EED, Barisal Zone, Barisal.

Package No.	Identification of package	Location upazila, district	Tender security amount (Taka)	Completion time in months
01	Vertical extension work of (2nd, 3rd & 4th floor) Barisal Islamia College	Sadar, Barisal	4,50,000/-	15 (fifteen) months
02	Vertical extension work of (2nd & 3rd floor) Talukderhat High School & College	Sadar, Barisal	3,00,000/-	12 (twelve) months
03	Vertical extension work of (2nd & 3rd floor) Mahilara Degree College	Gourmadi, Barisal	3,00,000/-	12 (twelve) months
04	Vertical extension work of (2nd & 3rd floor) Banaripara Degree College	Banaripara, Barisal	3,00,000/-	12 (twelve) months
05	Vertical extension work of (2nd & 3rd floor) Chandpasha High School & College	Babudganj, Barisal	3,00,000/-	12 (twelve) months
06	Vertical extension work of (2nd & 3rd floor) Purbo Hosnabad College	Muladi, Barisal	3,00,000/-	12 (twelve) months
07	Vertical extension work of (2nd & 3rd floor) Ulania Mujaffar Khan Degree College	Mehendiganj, Barisal	3,00,000/-	12 (twelve) months
08	Vertical extension work of (2nd & 3rd floor) Syed Afsar Ali Degree College	Bakerganj, Barisal	3,00,000	12 (twelve) months
09	Vertical extension work of (3rd floor) Baghda Secondary School & College	Agaljhara, Barisal	2,00,000/-	12 (twelve) months
10	Vertical extension work of (2nd & 3rd floor) Rajapur Degree College	Rajapur, Jhalakathi	3,00,000/-	12 (twelve) months

**PROCURING ENTITY DETAILS**

25.	Name of official inviting tender	: Md. Jahangir Alam.
26.	Designation of official inviting tender	: Executive Engineer.
27.	Address of official inviting tender	: Education Engineering Department, EED, Barisal Zone.
28.	Contact details of official inviting tender	: Phone No. 0431-2175311.
29.	The procuring entity reserves the right to accept or reject any/all tenders without any reason whatsoever.	

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**Md. Jahangir Alam**  
Executive Engineer  
Education Engineering Department  
Barisal Zone, Barisal