

Advanced Manufacturing

**CAFOE Conference, Irvine, CA
2015, June 1-3**

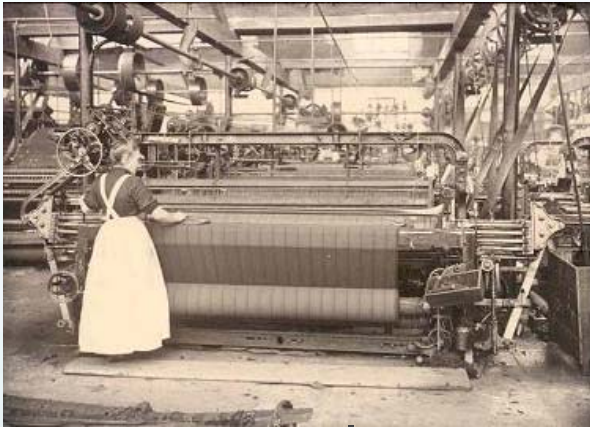
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Introduction

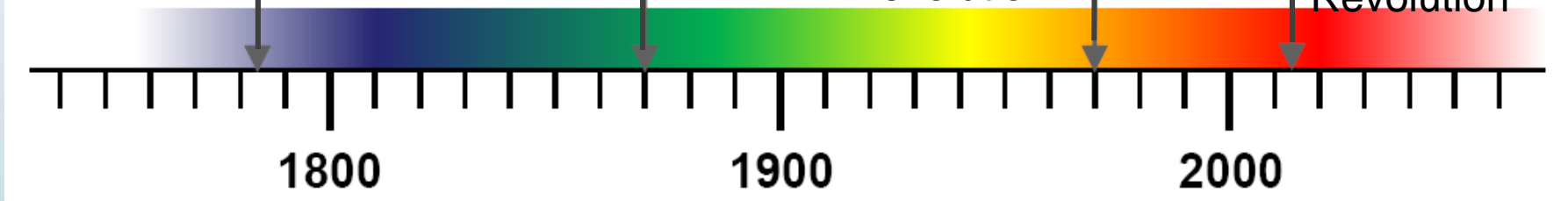


1st Industrial Revolution

2nd Industrial Revolution

3rd Industrial Revolution

4th Industrial Revolution



Advanced Manufacturing

Big data

Clean water

Health care devices





Advanced Manufacturing



Table 1 - The 15 Largest Countries for Manufacturing Value-Added

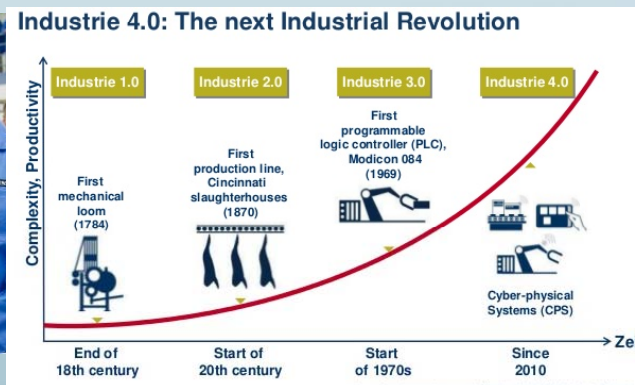
Rank	% of World Manufacturing in 2012	2012	2002	1992
1	22.4	China	United States	United States
2	17.4	United States	Japan	Japan
3	9.7	Japan	China	Germany
4	6.0	Germany	Germany	Italy
5	2.8	Korea	Italy	France
6	2.4	Italy	United Kingdom	United Kingdom
7	2.3	Russia	France	China
8	2.2	Brazil	Korea	Russia
9	2.1	India	Mexico	Spain
10	2.0	France	Canada	Canada
11	1.9	United Kingdom	Spain	Brazil
12	1.8	Indonesia	Brazil	Mexico
13	1.8	Mexico	India	Korea
14	1.6	Canada	Indonesia	Turkey
15	1.4	Spain	Netherlands	Netherlands

Note: Valued in U.S. dollars
Source(s): United Nations and MAPI



REPORT TO THE PRESIDENT Ensuring American Leadership In Advanced Manufacturing

Executive Office of the President
President's Council of Advisors on
Science and Technology



Made in China 2025



Advanced Manufacturing



According to a recent report by the President Council of Advisors on Science and Technology, “**Advanced Manufacturing** is a family of activities that

- depend on the use and coordination of information, automation, computation, software, sensing, and networking;
- and/or make use of cutting edge materials and emerging capabilities enabled by the physical and biological sciences.”



Program



- William King: Digital design and manufacturing - a new way to fabricate future products
- Yan Chen: Origami structures – a new way to design future products
- Shaochen Chen: Bio-manufacturing and some emerging products
- Dazhi Wang: New micro/nano fabrication technologies and their applications