5 Trends Shaping the Solar Technology Industry
#1. The scalability of solar is driving down manufacturing costs

From 2021, over 500 million solar panels will be manufactured globally every year, allowing continued cost reduction via economies of scale.

Source: IHS Markit
As cost continue to fall, the scale of solar deployment will accelerate with installations occurring at all points of the grid.

Solar panels can be installed in applications ranging from small off-grid systems to GW-scale power plants.

630 GW of photovoltaic (PV) systems will be installed from 2018 to 2022.

- Off-grid: 1%
- Residential rooftop: 12%
- Commercial rooftop: 32%
- Ground-mount: 55%

Source: IHS Markit
In 2016 and 2017, more solar was installed globally than any other type of power generation.
Even in Germany (where weather conditions aren’t perfect), solar competes with thermal power generators

Price paid for electricity generated by large-scale solar in Germany ($/MWh)

- Feed-in tariff prices
- Winning tender bids

Note: In 2014, Germany switched from offering a fixed feed-in tariff incentive scheme, to a competitive tender system.
Distributed generation, such as solar, now plays a very significant part in the overall power mix. Recent years have given rise to electricity ‘prosumers’ – customers who now generate and consume their own electricity using solar panels.
The “Energy Transition” – creating an intelligent, efficient, clean, customer-centric electricity network

**Decentralisation**

IHS Markit predicts that by 2020, over 5% of power in Germany, Italy and the United Kingdom will be generated by PV systems on the customer’s side of the meter.

**Digitalization**

A range of innovative new digital technologies are being deployed in order to improve the efficiency, usability and reliability of a new distributed power system.

- “Centralised Power “Grid”” → “Centralised Infrastructure”
- “Decentralised Power “Grid””
Total solar installations will increase by 154% from 2017 to 2022, spurring additional investment of $600 billion.
China will continue to dominate global solar manufacturing, and will also remain a major end market - Asia accounts for 92% of supply and 60% of demand
Attracted by the growing opportunity of solar power and attractive returns, as well as pressure to increase the sustainability of their businesses, major global corporations are investing into the solar industry.
Global corporations continue to step in to claim their stake in the solar industry

Select investments in solar PV by major global corporations

- **Total**: $1.3 billion for Sunpower in 2011.
- **Tesla**: $2.6 billion for Solarcity in 2016.
- **BP**: $200 million for Lightsource in 2017.
- **Shell**: $217 million for Silicon Ranch in 2018.
- **Apple**: $300 million in the China Clean Energy Fund in 2018.
### About IHS Markit energy technology market intelligence services:

Intelligence services provide an ongoing flow of data, forecasts and insight throughout the year, including:

- Regularly updated forecast models (Excel with PDF summaries)
- Supplier and project databases
- One-off or annual deep-dive reports, focused on hot topics and key market segments
- Analyst insights, discussions, Q&A

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