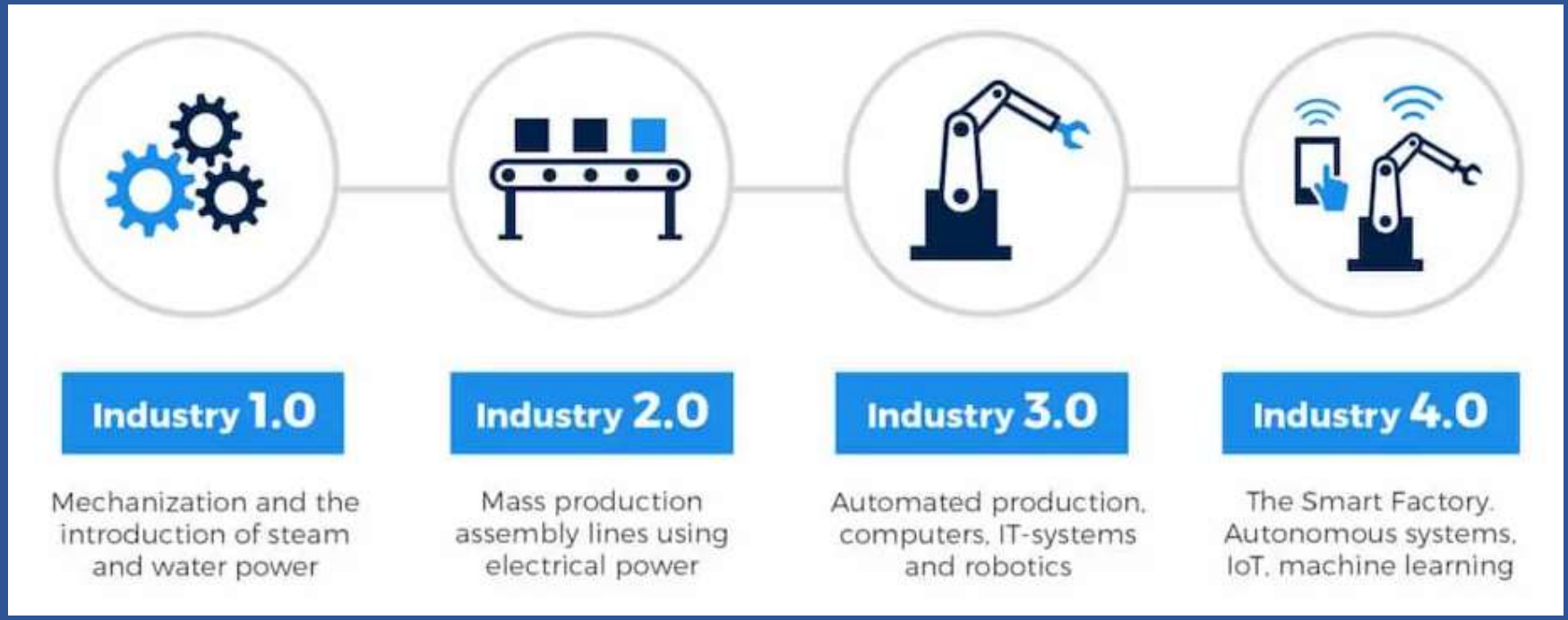
ML applications

The four industrial revolutions



ML and the future of manufacturing

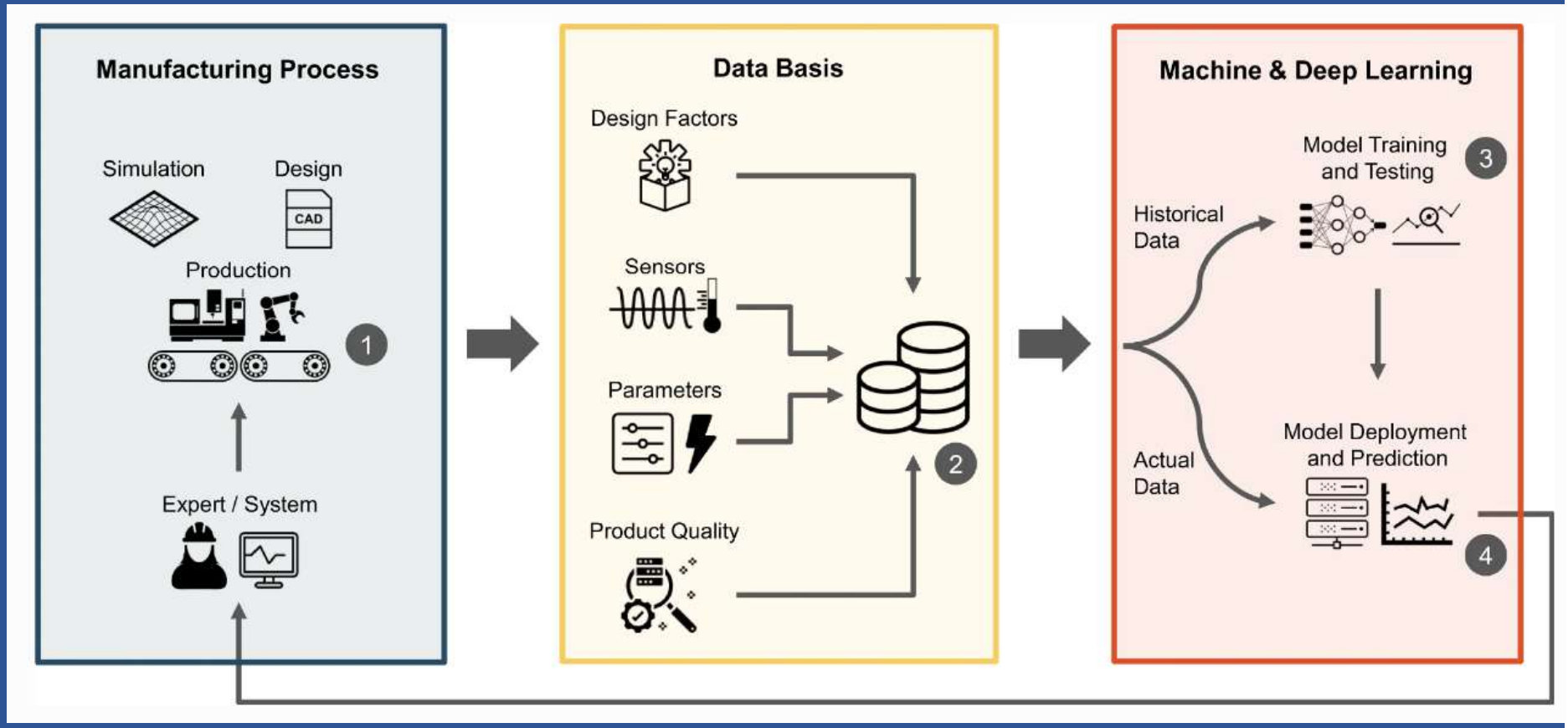
Benefits of machine learning for manufacturing

- Significant process-driven loss reductions.
- Cost reductions driven by predictive maintenance.
- Boost in capacity through process optimisation.
- More efficient inventory management by using predictive analytics.
- Extended life of machinery and equipment via Predicting Remaining Useful Life (RUL).
- Better supply chain management.
- Enhanced quality control.
- Improved safety conditions on the manufacturing floor.

Predictive maintenance

- Reducing downtime costs.
- Providing technicians with focused inspection, repair and tool requirements.
- Prolonging the remaining useful life (RUL) of machinery by preventing any secondary damage during repairs.
- Reducing the size of the technical team needed to make repairs.

Predictive quality and yield



Energy consumption forecasting

- Process data on factors like temperature, lighting, activity levels
- Build predictive models of likely energy consumption in the future
- Identify patterns and relationships that would be difficult to find using traditional methods.

Cognitive supply chain management

- Warehouse control: enabling the rapid replenishment of supplies.
- Demand forecasting - the analysis of customer behaviors and preferences using time series analysis.
- Logistics route optimization: review and allocate the most optimal routes for shipping goods.
- Transport optimization - assessing impacts on shipments and deliverables to optimize transportation solutions.

What's next?

Introduction to ML.NET