

The power plant of the future

Meet rising demand with a sustainable energy mix and reliable supply

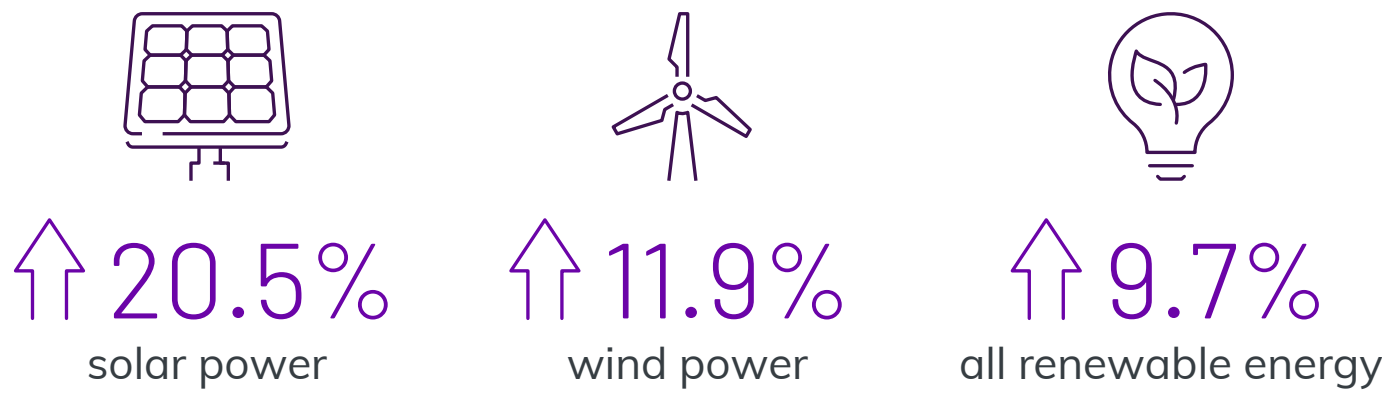
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The mix of power sources is changing as the industry shifts away from oil, coal, and natural gas, and toward sustainable energy sources including wind and solar.

At the same time, power utilities are under pressure to deliver safer, more reliable, and more resilient energy to customers.

Renewable Power Growth in 2020

Global renewable energy generation grew in 2020, even as overall energy consumption fell by 4.5% overall¹



Efficiency challenges of large capital projects

Executing large capital projects, as well as safely and efficiently operating and maintaining the resulting facilities, is complex. It involves:

- Vast quantities of data and documents
- Large numbers of highly skilled personnel
- Geographically dispersed teams
- A variety of information systems
- An array of sophisticated business processes

Benefits of streamlined engineering and execution processes

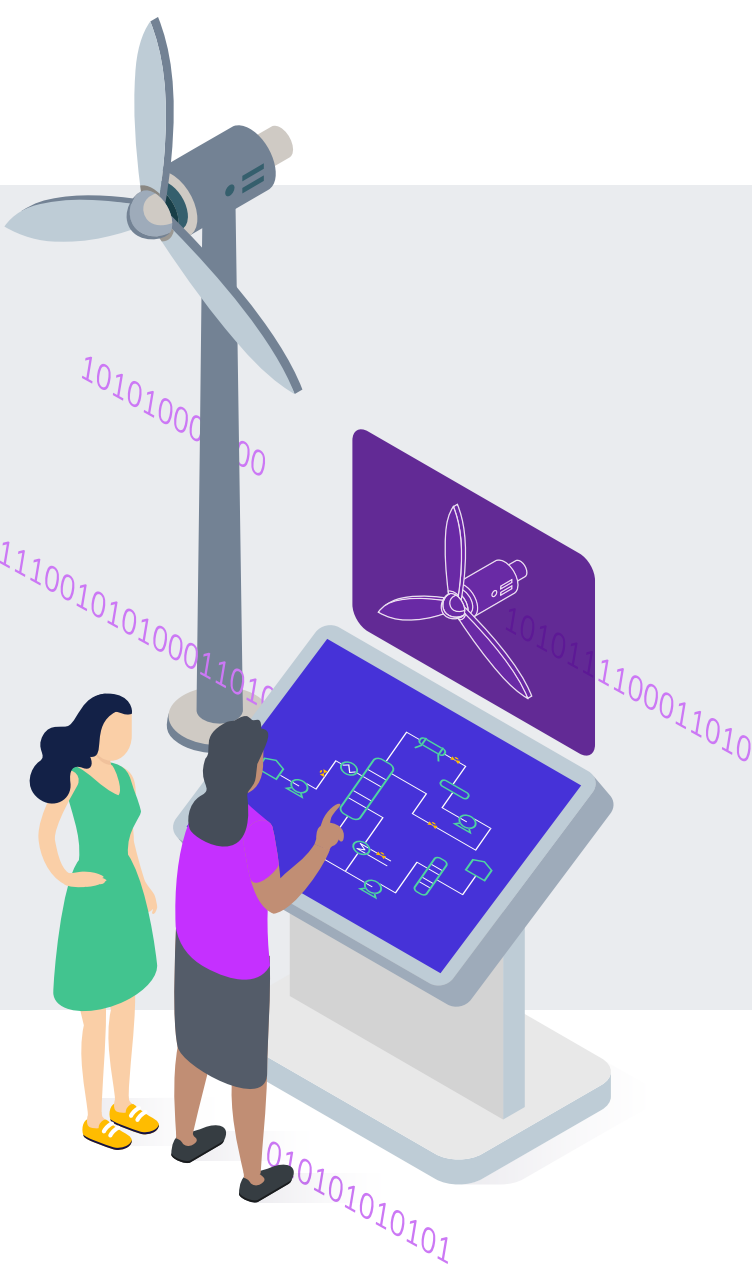
Reduced errors and rework



Lower project costs and reduced schedule



Reliable information for improved operations and maintenance



50%

50% less effort is needed to implement plant process simulations with a digital twin²

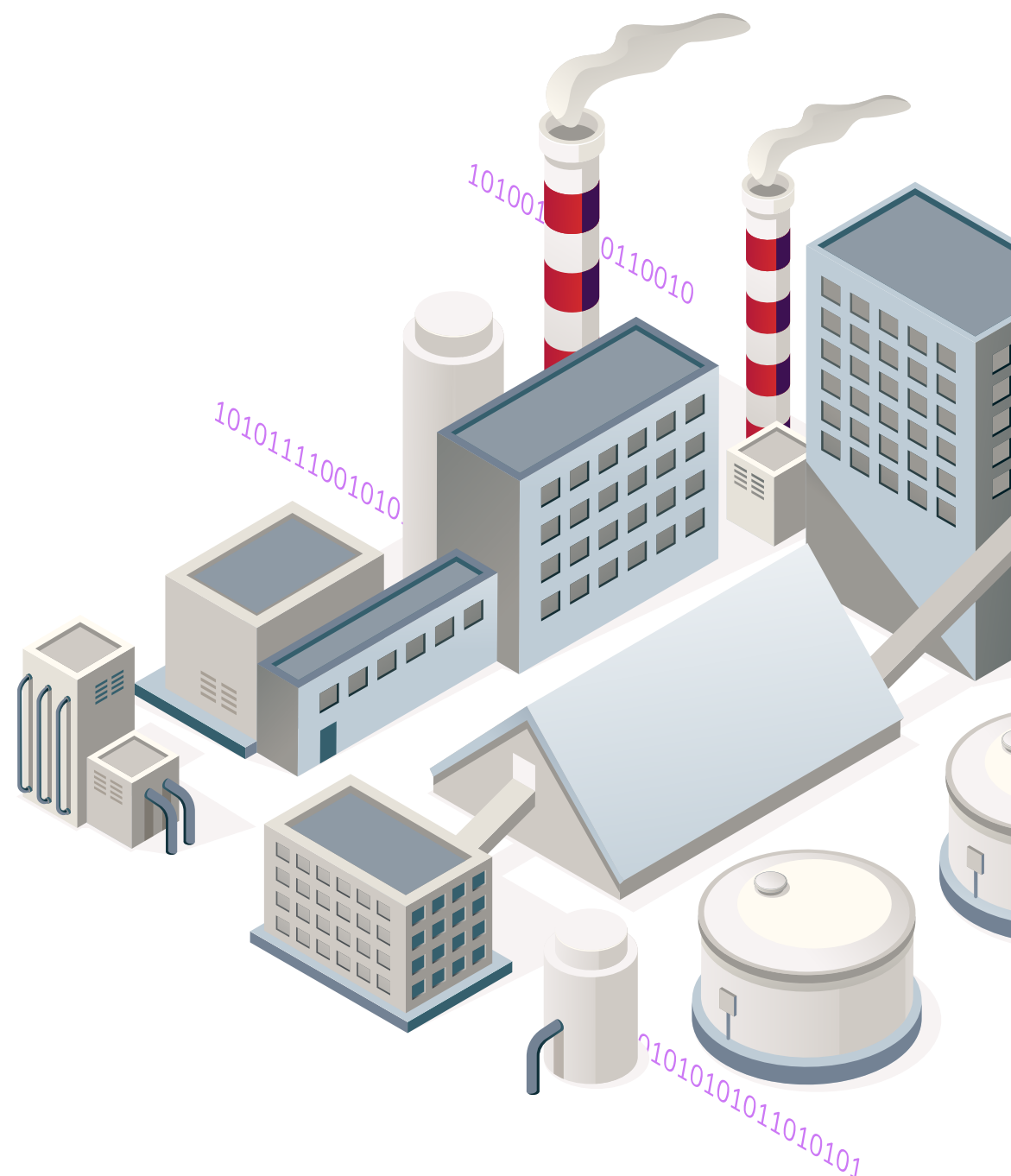
How a digital twin supports efficiency

The cloud-enabled digital twin aligns all teams and disciplines around a single source of trusted data in order to improve project design and delivery. It provides end-to-end visibility of the capital project, breaking down silos, improving decisions, and fostering a culture of trusted collaboration and innovation.

Improving efficiency is imperative in power generation, transmission, and distribution

Whether building a new combined cycle plant, adding renewable generation assets, or finding ways to optimize the operation of existing generation, it takes advanced and innovative tools to support sustainability and efficiency.

In transmission and distribution, grid reliability is a rising concern. Utilities are working towards digitization of transmission and distribution grids, maximizing the utilization of assets and modernizing the automation infrastructure.



Success story

Shanghai Environmental Group's Shanghai Laogang Project relied on AVEVA solutions during the design, construction, and delivery of the world's largest waste-to-energy plant³

200+ construction clashes detected and avoided

[Read more](#)



AVEVA: Delivering sustainable business value for over 50 years



The connected, digital plant of the future starts here

AVEVA's solutions provide Owner Operators and Engineering, Procurement and Construction companies (EPCs) with comprehensive digital engineering solutions that span greenfield plants, capital projects, brownfield plants, and Digital Twin initiatives.

[Learn more](#)



Sources

1. "Statistical Review of World Energy," BP, 2021, <<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>>
2. "Unified lifecycle simulations with AVEVA Process Simulation", AVEVA, 2021, <<https://sw.aveva.com/campaigns/unified-lifecycle-simulations-with-simcentral>>
3. "Success Story: Shanghai Laogang Project", AVEVA, <<https://www.aveva.com/en/perspectives/success-stories/shanghai-laogang-project/>>