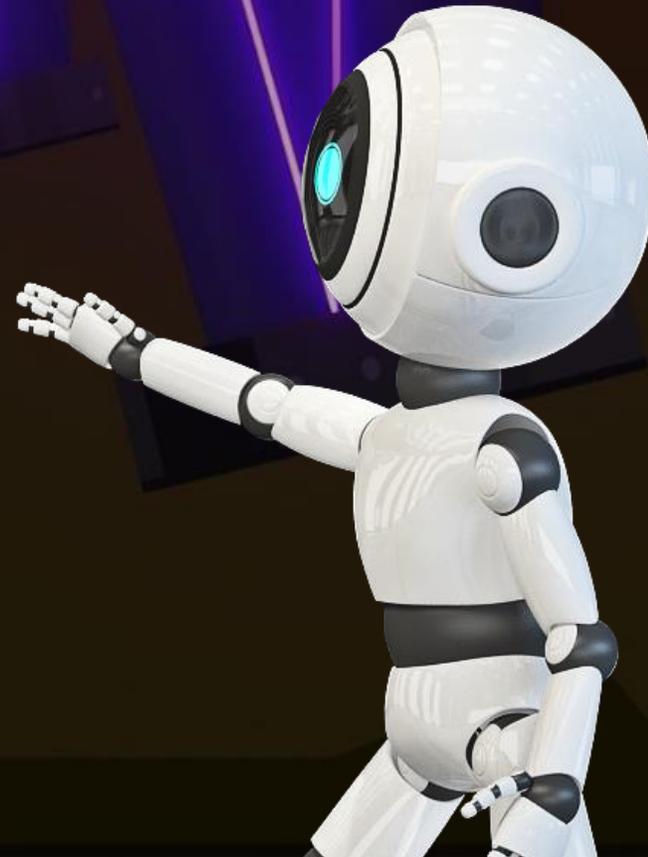




A CUSTOMER SUCCESS STORY

Pump upgrades in EUV module

Edwards
semiconductor
Intelligent
service



What is EUV?

Extreme Ultraviolet (EUV) lithography is a cutting-edge technology used in semiconductor manufacturing to create extremely small and intricate patterns on silicon wafers.

It employs EUV light with wavelengths around 13.5 nanometers, enabling the production of advanced integrated circuits at 5nm and 3nm process nodes.

EUV lithography represents a significant leap from traditional photolithography, as it requires specialized equipment and processes, such as reflective photomasks and photoresists optimized for EUV exposure.



The challenges our customer faced

Our customer is a logic foundry that has a keen focus on green manufacturing.

The first challenge is that EUV processes require high levels of power consumption. This is increasing with the development of advanced semiconductor manufacturing and scaling, meaning more and more EUV tools are installed.

Anything that can be done to lower our customer's consumption, to help them drive towards their own ESG goals and to comply with government policy is vitally important.

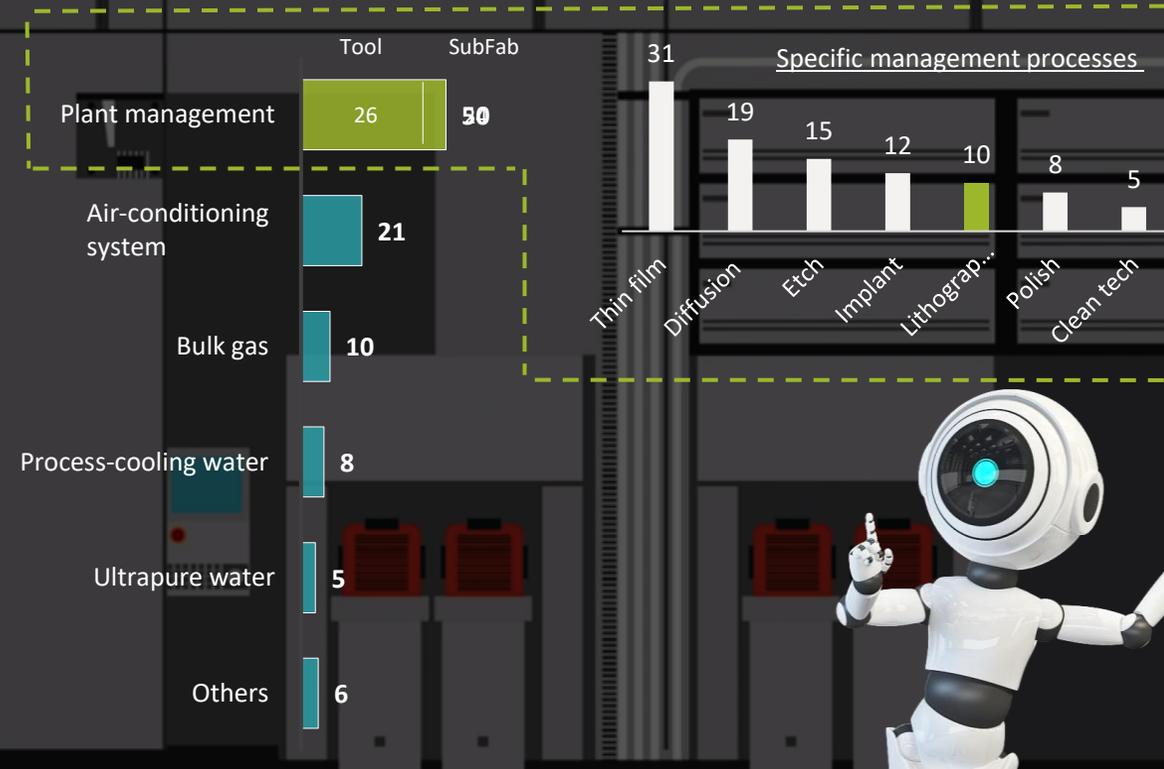
The second challenge is in capital expenditure. If there is a way to avoid CapEx it will be quicker and easier to accomplish change.



How much power could the lithography process potentially save?

A 300-milimeter Fab could cut up to 30% of its energy costs.

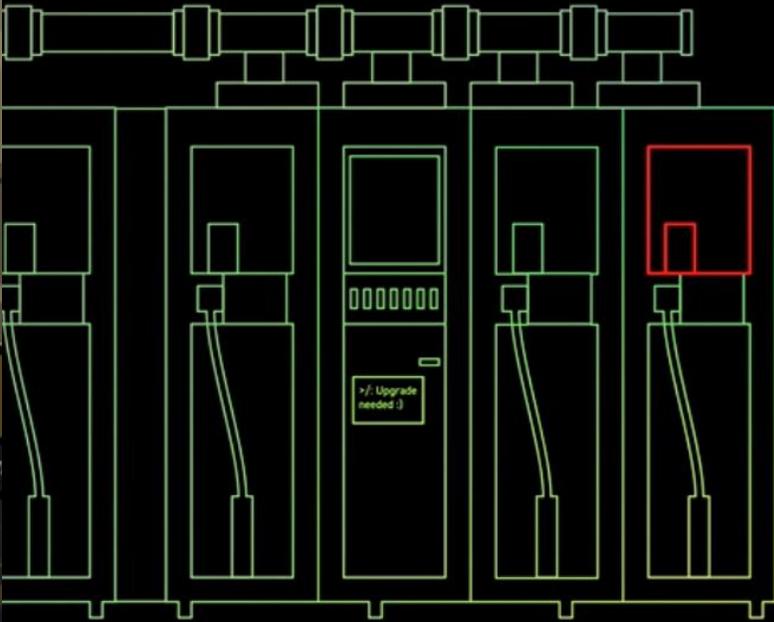
Breakdown of potential saving, %



*credit:

https://www.mckinsey.com/~media/mckinsey/dotcom/client_service/operations/pdfs/bringing_fabenergyefficiency.ashx

The key to unlocking the problem



Easy to install
plug and play
pumps and
boosters

The key involves the strategic **replacement of the previous model of pumps to the latest generation**. This 'plug and play' upgrade is designed to enhance operational efficiency and performance for EUV modules as part of a service plan without any new capital equipment investment.

The upgrade encompasses a transition from the pXH6000 to EUV7K (for the booster pump) and/or iXH3045H to EUV3050H (for the Dry Pump), which not only augments the pump's capacity but also **optimises the pump stack configuration**, reducing the number from seven slices to five.

Utility consumption saving

Furthermore, energy conservation stands as a cornerstone of our offerings.

Leveraged by our extensive installation base, the integration of our energy-efficient pumps not only contributes to individual energy savings but also amplifies the collective impact on energy conservation efforts.

As a result, clients can benefit from **significant reductions in power consumption.**

0.33 GWh

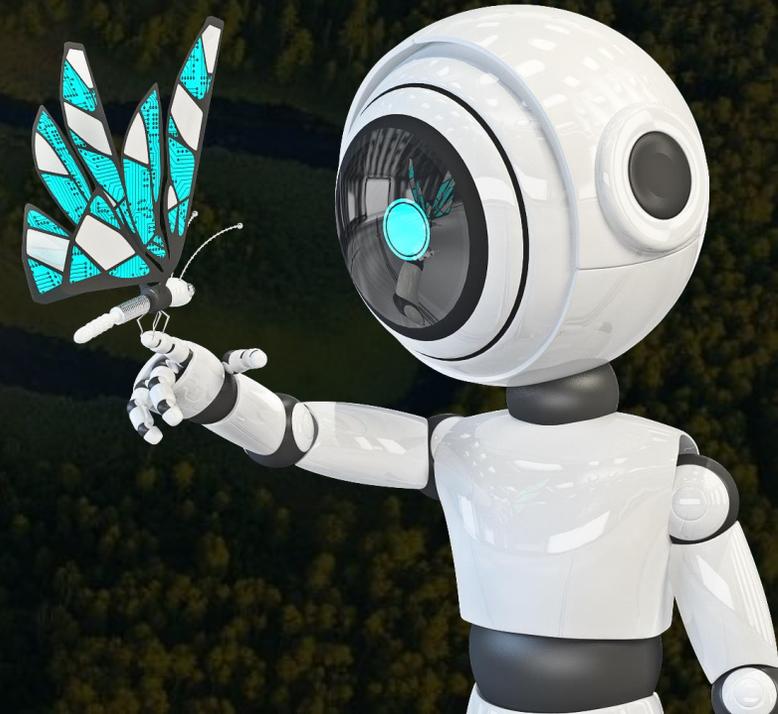
Power reduction
per system per year

Up to
230,000 kg

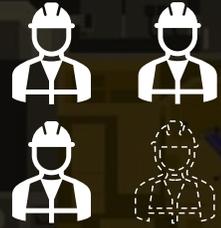
CO_{2e} saving
per year per system

21%

TEE reduction
on system pumps



The key to unlocking the problem



Less
Services

+



Longer
product
lifetime

+



Less
Energy
consumption

=



Less
Total cost of
ownership

Edwards has examined the scenarios for EUV Fabs and existing EUV SubFab system set ups. As previously highlighted, our competitive pump solutions are engineered to maintain and enhance manufacturing performance without any compromise.

By innovating an easy to install advanced pump upgrade service, we can now deliver to those challenges with the minimum of stoppage and expense, avoiding CapEx.

Customer testimonial

“

Edwards' pump upgrade service was a strategic investment for our company. The improved pump performance and energy efficiency have contributed to a more sustainable operation. We appreciate Edwards' dedication to providing solutions that cater to their customers' evolving needs.

”

- Senior Operations Manager
Leading Semiconductor Manufacturer



Contact

To discuss your service options
request a consultation with our team

consultation@edwardsvacuum.com

Or search for “EUV upgrade” on our website

www.edwardsvacuum.com



[environments where innovation thrives]

edwardsvacuum.com