

ANIE
AUTOMAZIONE



Soluzioni integrate test e CAE

Unit-dose packaging machine

Fabio Marzo - Sales Executive

SIEMENS

Performance Engineering

Integrated Simulation and Testing process

Concept Design and
Machine Simulation

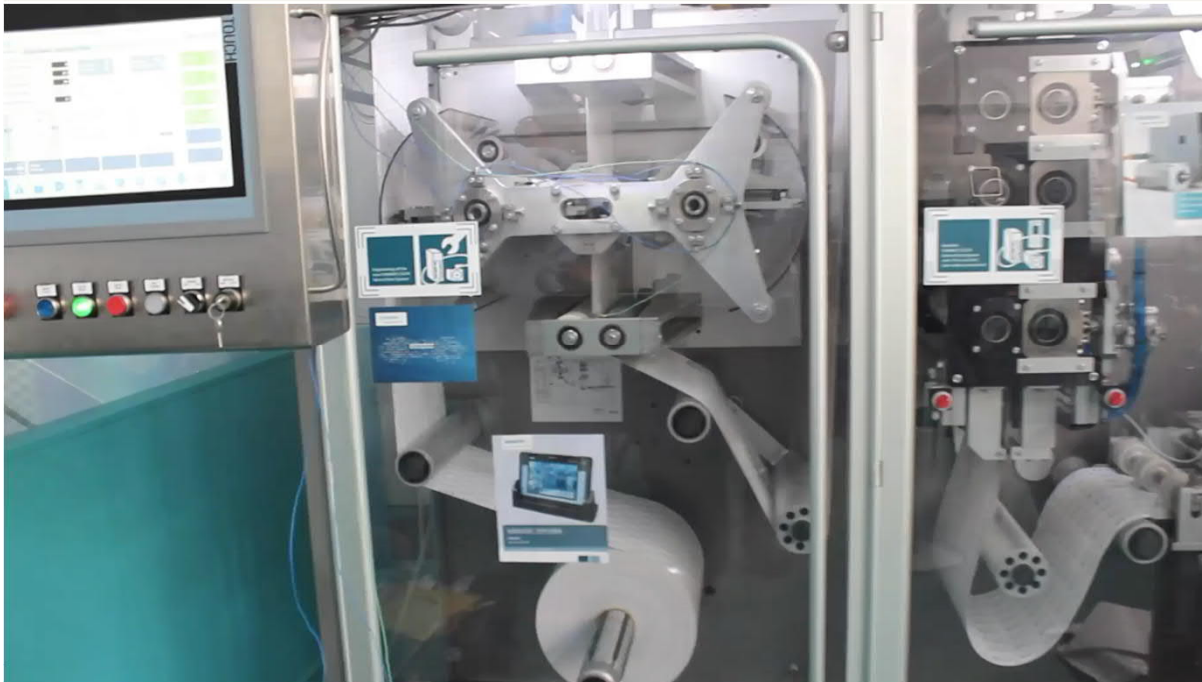
Frontloading
Simulation

Prototyping
and Testing

Virtual
Commissioning

Startup and Physical
Commissioning

Closed-Loop
Validation



Conventional pack, including small cups, small bottles and tubes, with content from 1 to 30 ml.

Advantages in term of **flexibility** and **production cost for units**

Concept Design and Machine Simulation

**Concept Design and
Machine Simulation**

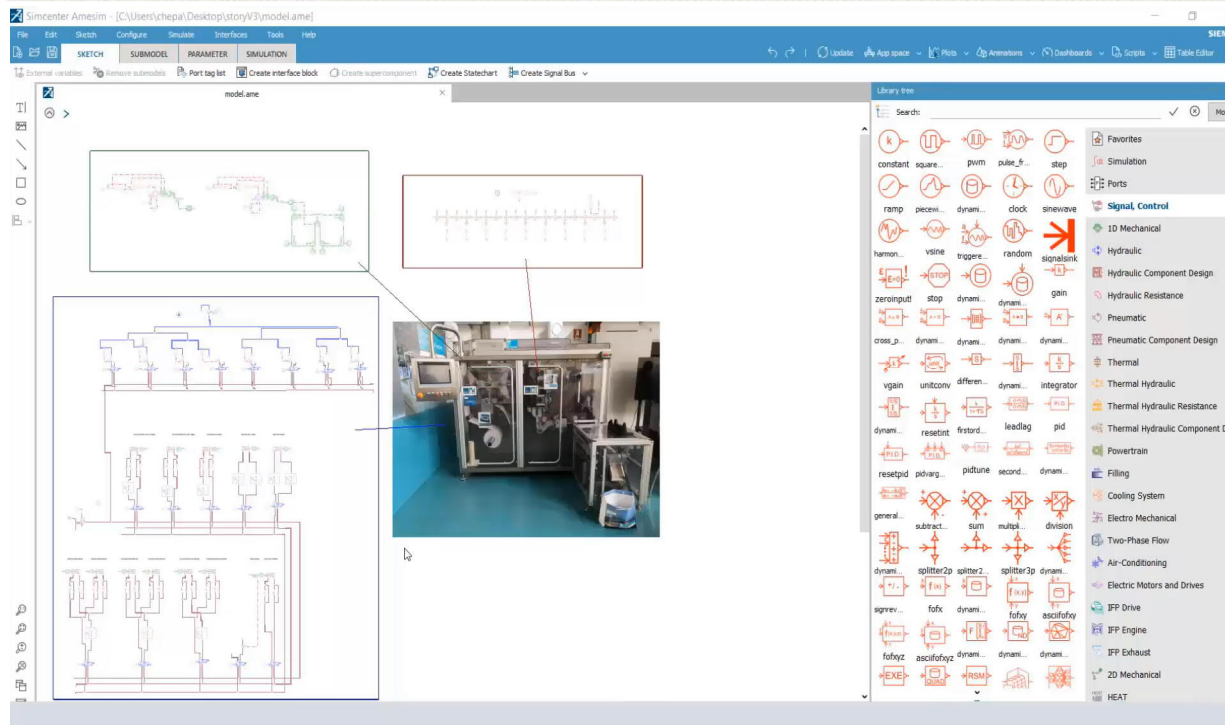
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How do you...

Transform requirements of increasing machine throughput into engineering objectives with limited modifications?

Mature from initial architecture definition to detailed systems design and components sizing?

Benchmark your planned machine versus your competition?

Frontloading Simulation

Concept Design and
Machine Simulation

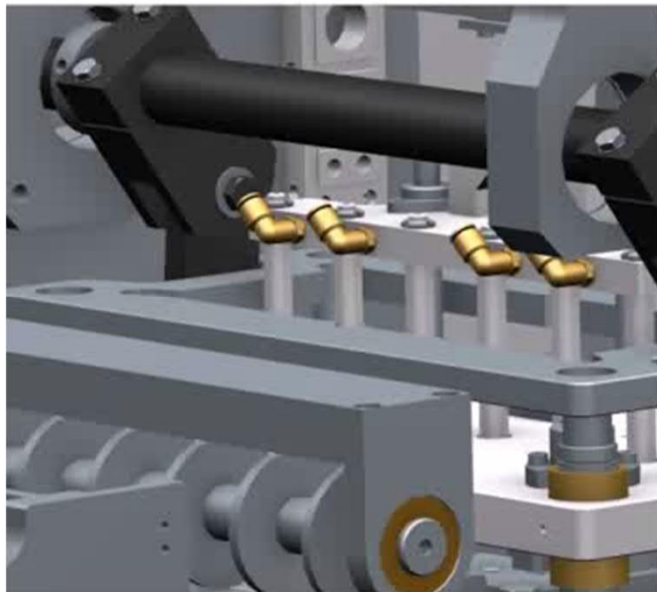
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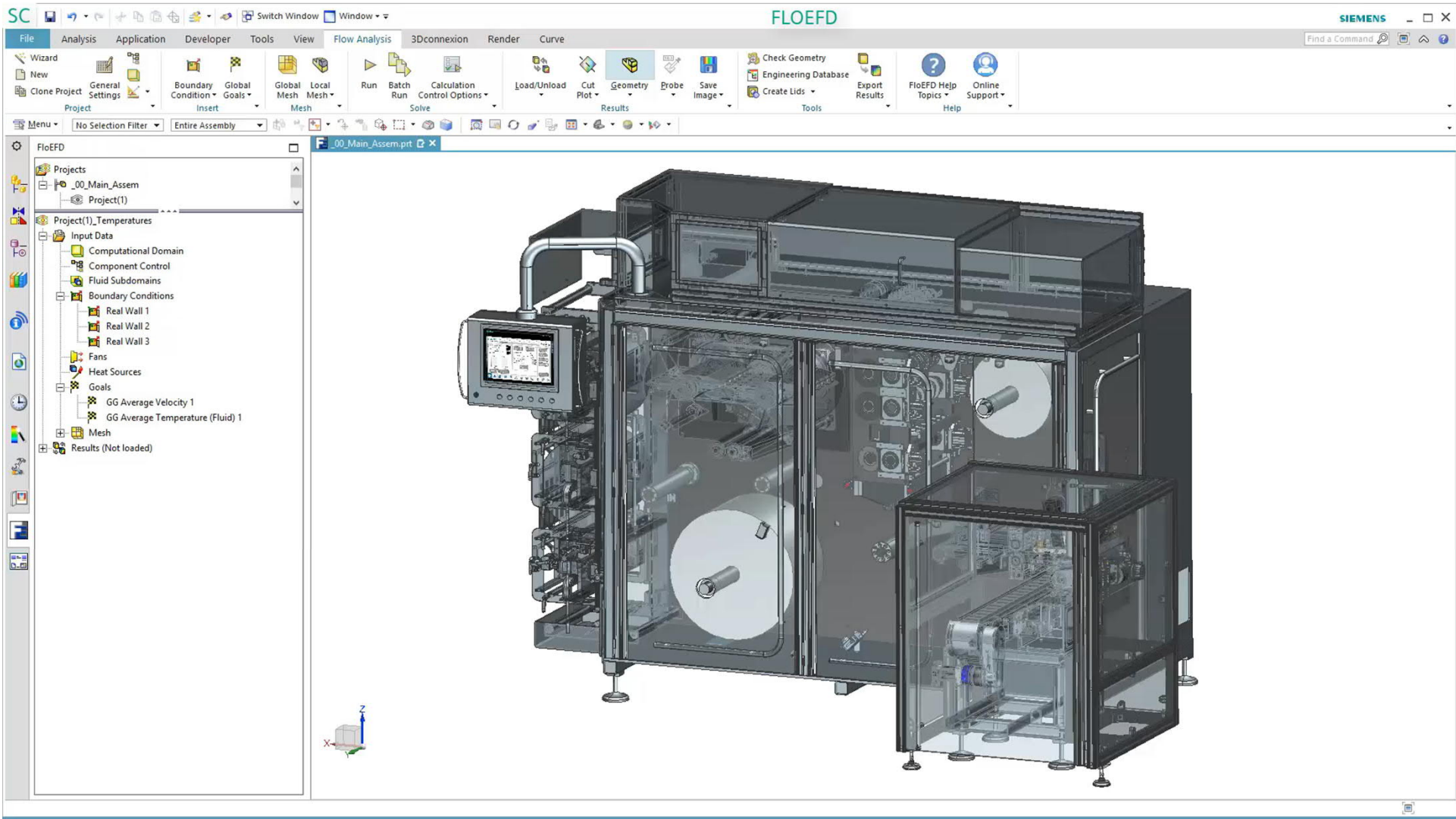
How do you...

Identify design issues as early as possible?

Explore new design alternatives?

Balance multiple performance parameters?

Simulation **validated** by physical testing



Prototyping and Testing

Concept Design and
Machine Simulation

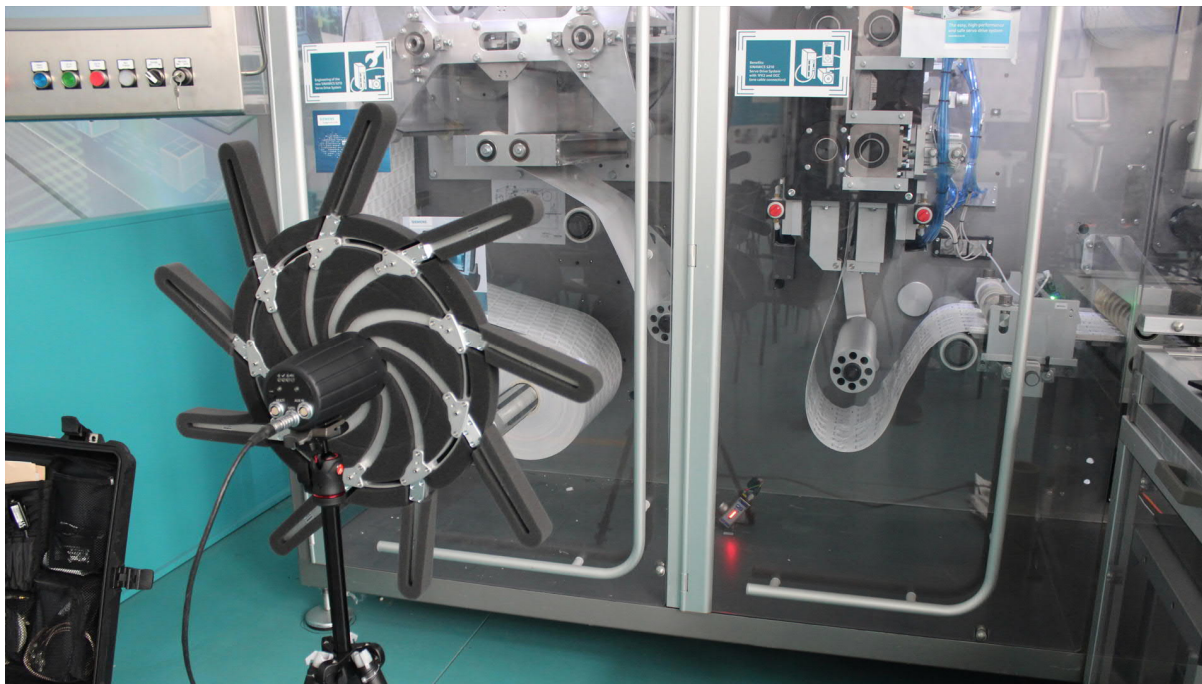
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How do you...

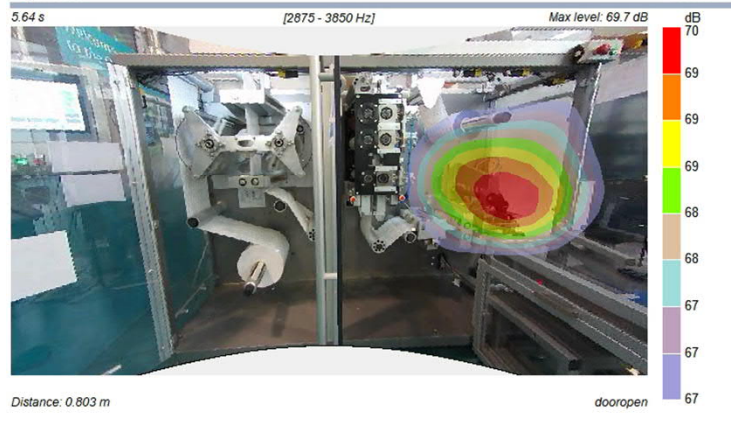
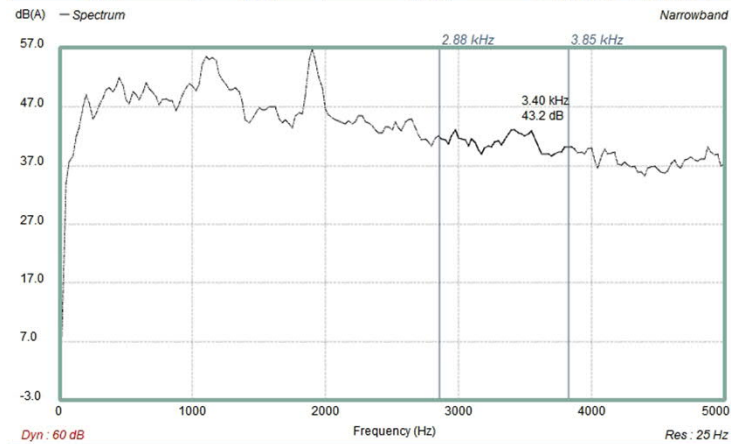
Validate Key Performance Indicators of the physical machine spanning multiple domains?

Locate the root cause of the problem with machine prototypes, faster?

Improve the accuracy of simulation models to better represent the real machine?

Replay Export Layouts Reference Overload

Distance: 0.803 m Time: 00:05



00.00 13.96

00.00

Real-time and acquisition

Distance

Measured User
 Distance value: 0.803 m
 Refresh time: 500 ms

Averaging

Transient Stationary

Display

Frequency scales

Linear 1/3 octave Audio filtering
 2875 Hz - 3850 Hz

Hologram scales

Auto Fixed Extended
 min: 30 dB max: 50 dB range: 3 dB

Replay

Cursors selection

Replay Averaging

Replay options

Loop Listening
 Mic: 1

Replay speed

High precision Normal

Project

Path: ON MACHINERY/UDPM/sound camera/
 Run: dooropen.bdd
 Comment:

Project	Date	Duration	Array
dooropen	2019-06-04	0:14	81
Bottle machine belt	2017-01-11	0:09	81
dryer_start_stop	2017-05-24	0:21	81
wind	2018-06-20	0:11	117
coffee02	2017-05-24	0:07	81

Virtual Commissioning

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The screenshot shows the Siemens Simcenter Amesim software interface. The main window displays a 3D model of a machine with a PLC ladder logic diagram overlaid. The 'AUTOMATION CONNECT' window is open, showing the 'PLC SIM' configuration. The 'PLC SIM' window displays a table of PLC variables and their addresses.

Parent ID	Name	Address	Direction	I/O type	Comment
PLCSIM Adv...	"Start toggled"	I0.0	Input	BOOL	Input: 0.0
PLCSIM Adv...	Input	I5.0	Input	REAL	Input: 5.0
PLCSIM Adv...	Output	Q0.0	Output	BOOL	Output: 0.0

How do you...

Limit onsite errors associated with physical commissioning?

Shorten commissioning time and put the operational machine in line as soon as possible?

Train your customer's workforce adequately?

Startup and Physical Commissioning

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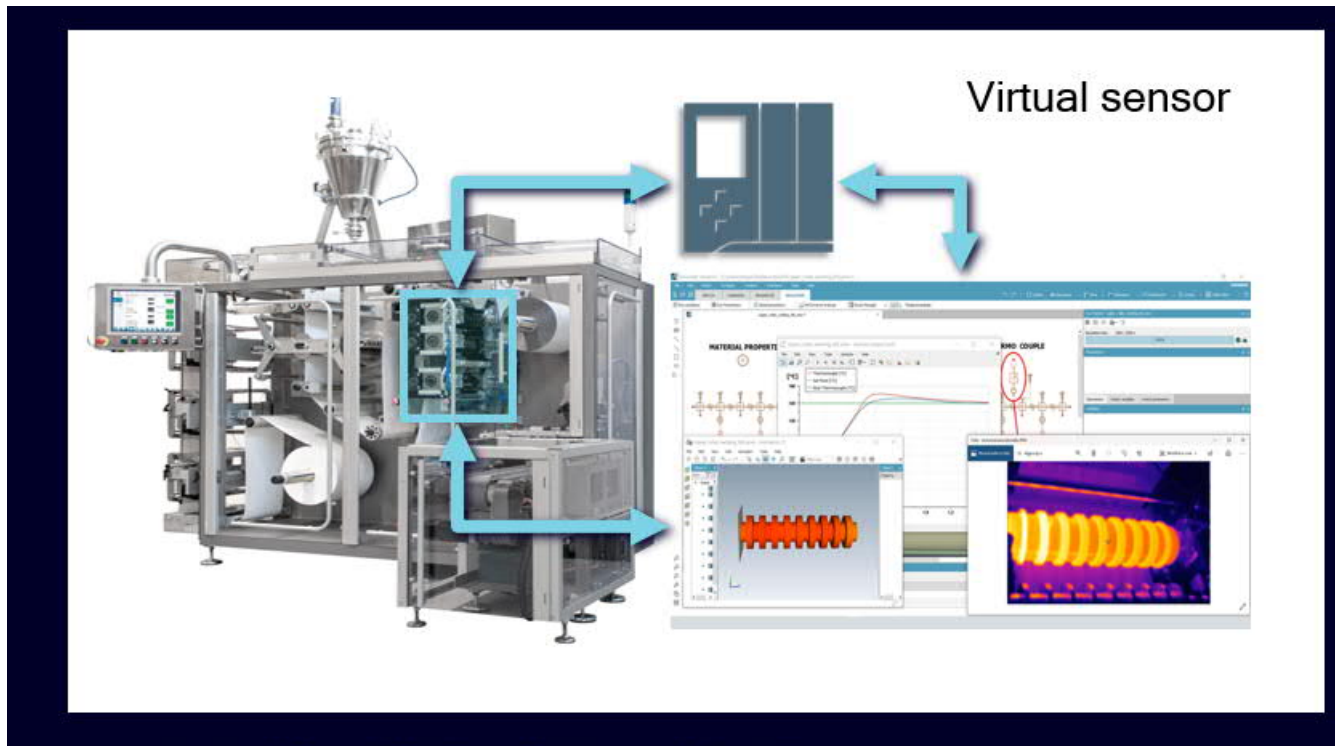


How do you...

**Keep the machine
commissioning process as
short as possible?**

**Limit end-user complaints
and on-site interventions?**

Closed-Loop Validation



How do you...

Minimize customers' lost revenue due to unforeseen machine downtime?

Predict reliable maintenance tasks?

Capture machine performance from the field for next generation designs?

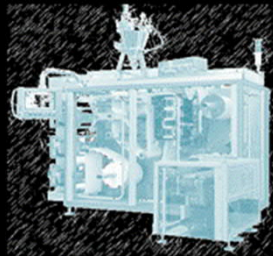
Optimize machine performance based on operating environment?

Optimize product efficiency in operation

Feed back insights to continuously improve product

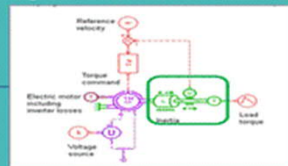
Centralized, standardized and secure way of collecting relevant machinery information

Run multiple simulations on real data to explore the best configuration before building the machinery



Increased efficiency and optimize configuration for the operating conditions of machinery

System Simulation



Optimize



Manage Simulation

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How do you...

Quickly find and analyze the latest machine simulation and design data throughout the development cycle for all project stakeholders?

Capture and manage expert knowledge for re-use?

Reduce reporting and data preparation time needed for certification?



Contact

Fabio Marzo

Sales Executive

fabio.marzo@siemens.com

+39 335 757 3974

siemens.com/plm