



Glass: Inspiring New Frontiers of Development

Industry 4.0 revealed by Vertech'



Cebu, Philippines
October 14th-18th 2019

Presented by Mr. Ulas Topal,
CEO at Vertech'

Customers all over the world

More than 650 lines
installed in 29 countries



References



A world in constant evolution

Challenges faced by glassmakers

How to produce
the strongest and
lightest articles?



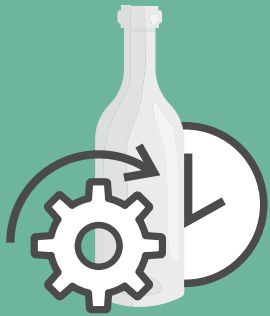
Technical

A world in constant evolution

Challenges faced by glassmakers

How to produce the strongest and lightest articles?

How to produce articles with the maximum quantity of cullet?



Technical



Economic

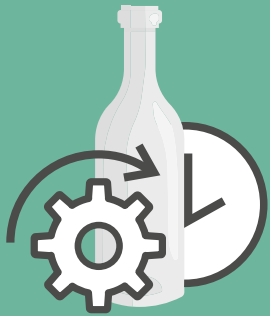
A world in constant evolution

Challenges faced by glassmakers

How to produce the strongest and lightest articles?

How to produce articles with the maximum quantity of cullet?

How to reduce carbon footprint in glassmaking?



Technical

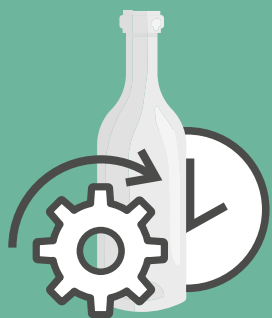


Economic



Environmental

Key to success for Glassmakers =



Technical



Economic

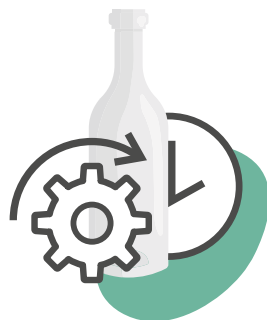


Environmental

Vertech' accompagnies glassmakers

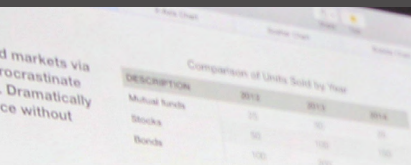


As **world-leading software provider**, Vertech' provides glassmakers with all the **keys to find the perfect balance**.



Vertech' accompagnies glassmakers

Going beyond current frontiers of development



- **25 %** of turnover invested in **R&D**
- Keeping on **innovating and searching** for the best solutions adapted to glassmakers' reality
- Being aware of the latest innovations to offer **state-of-the-art technologies**

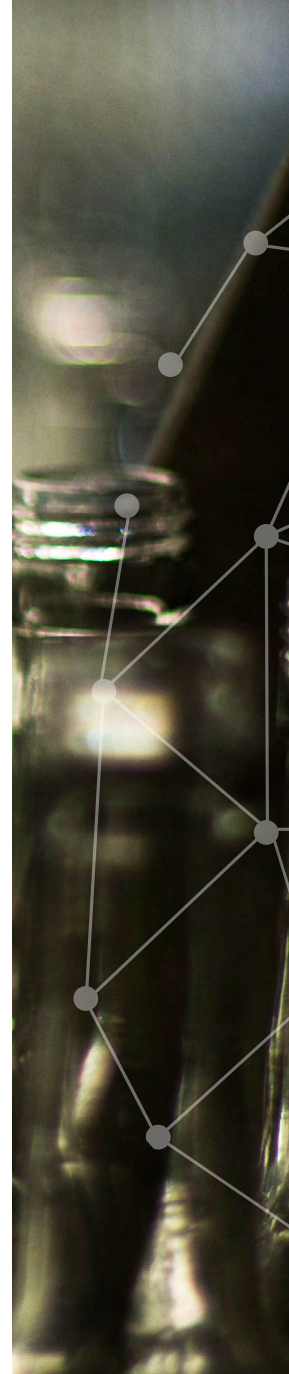


Vertech' accompagnies glassmakers

Capitalizing on Vertech' experience and know-how

- Consolidating **long-term expertise**
- Listening to **glassmakers' needs** and requests
- Maintaining **reliable relations with partners**
- Holding **trustful collaborations** with clients

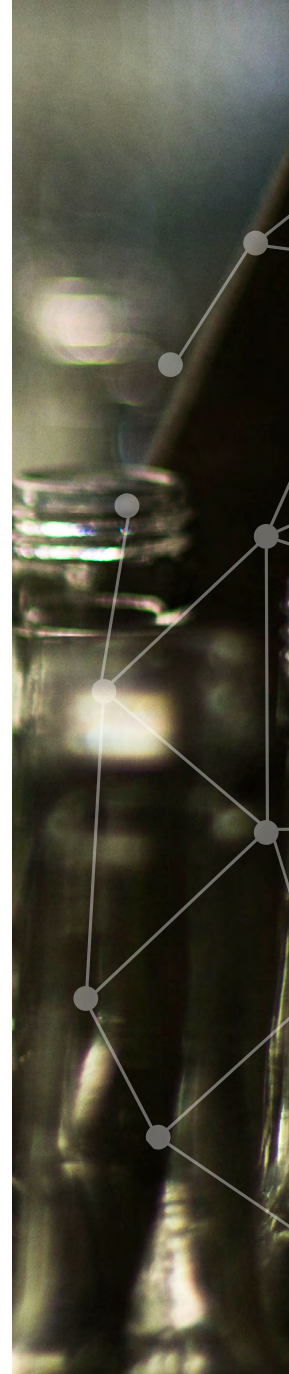
Answer of Vertech'



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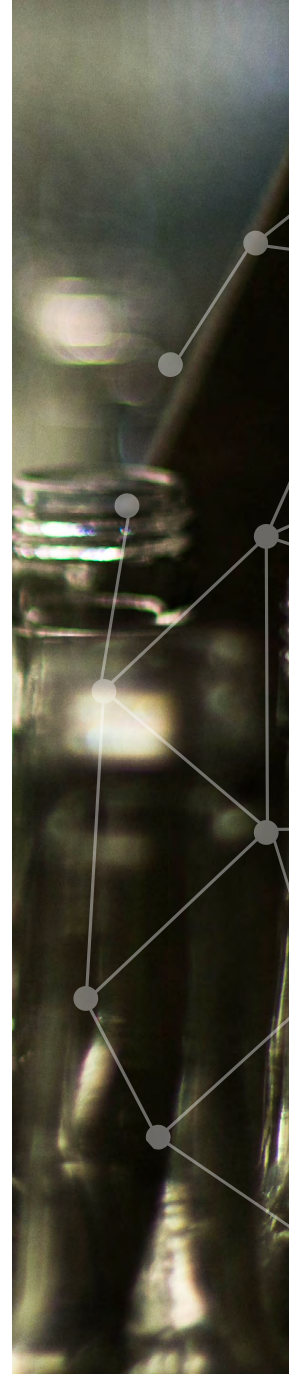
SL 4.0



Answer of Vertech'



is the answer of Vertech'
to challenges faced by
glassmakers



What's SIL4.0?



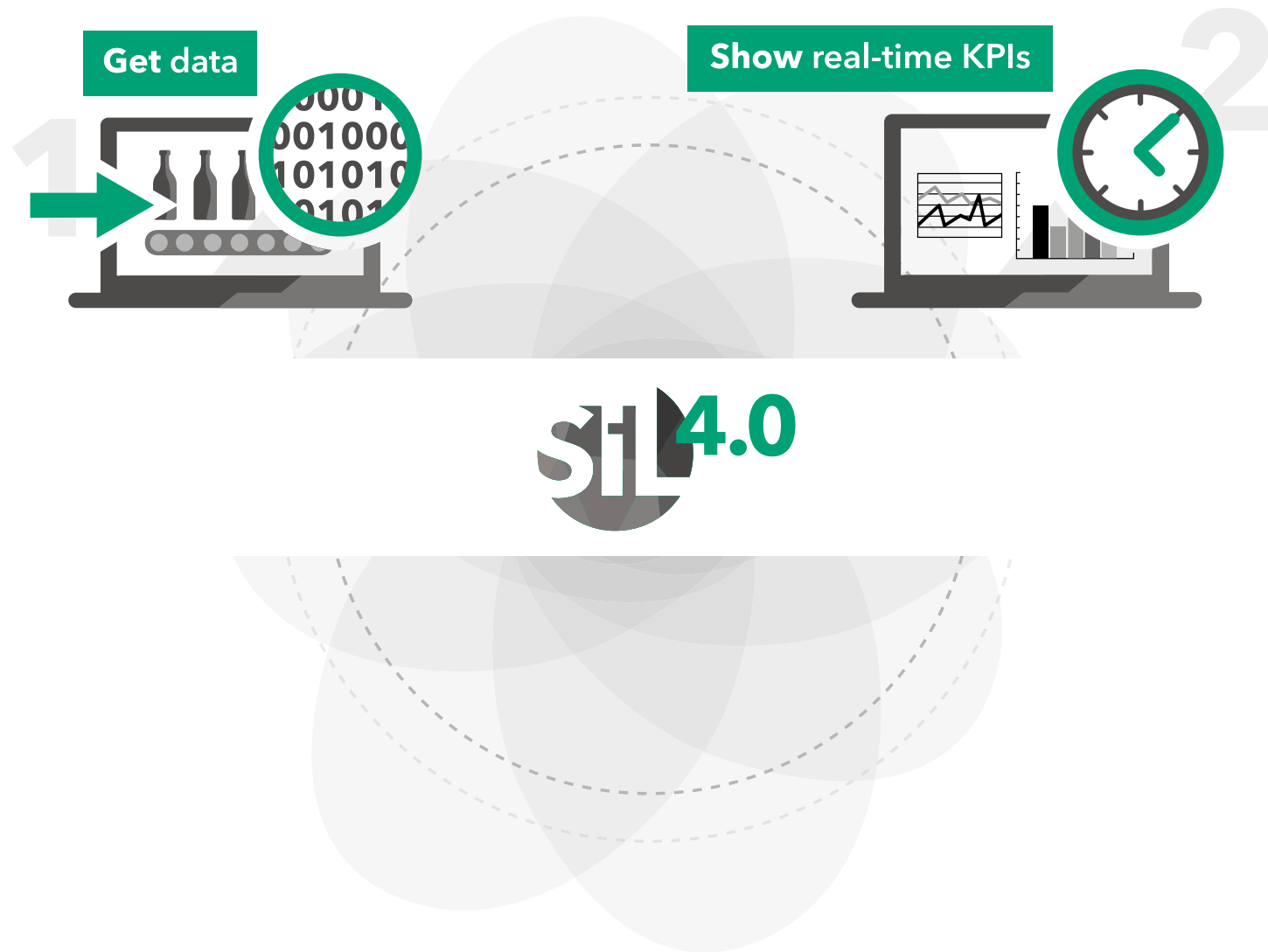
SIL4.0

What's SIL4.0?

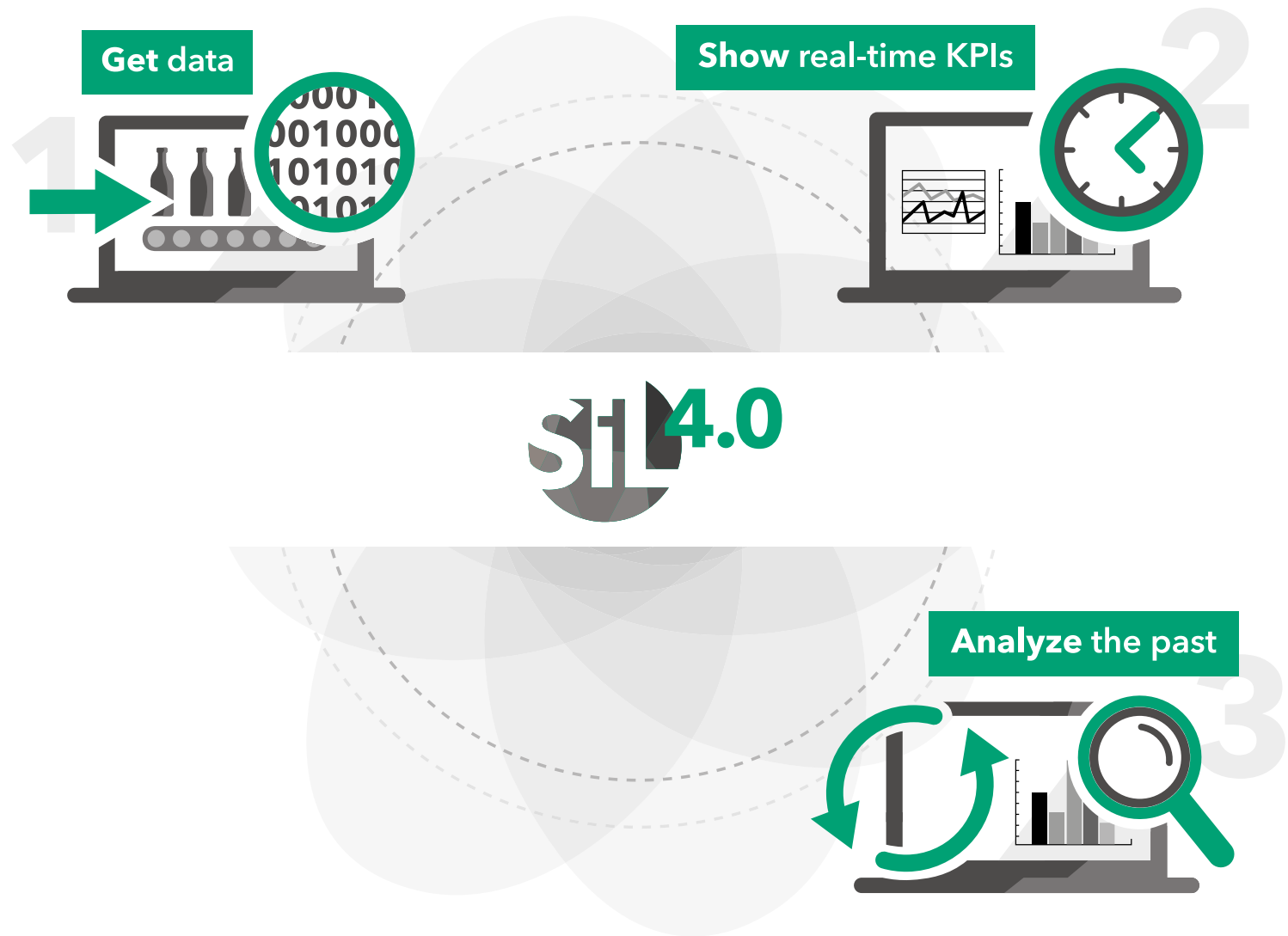


SIL4.0

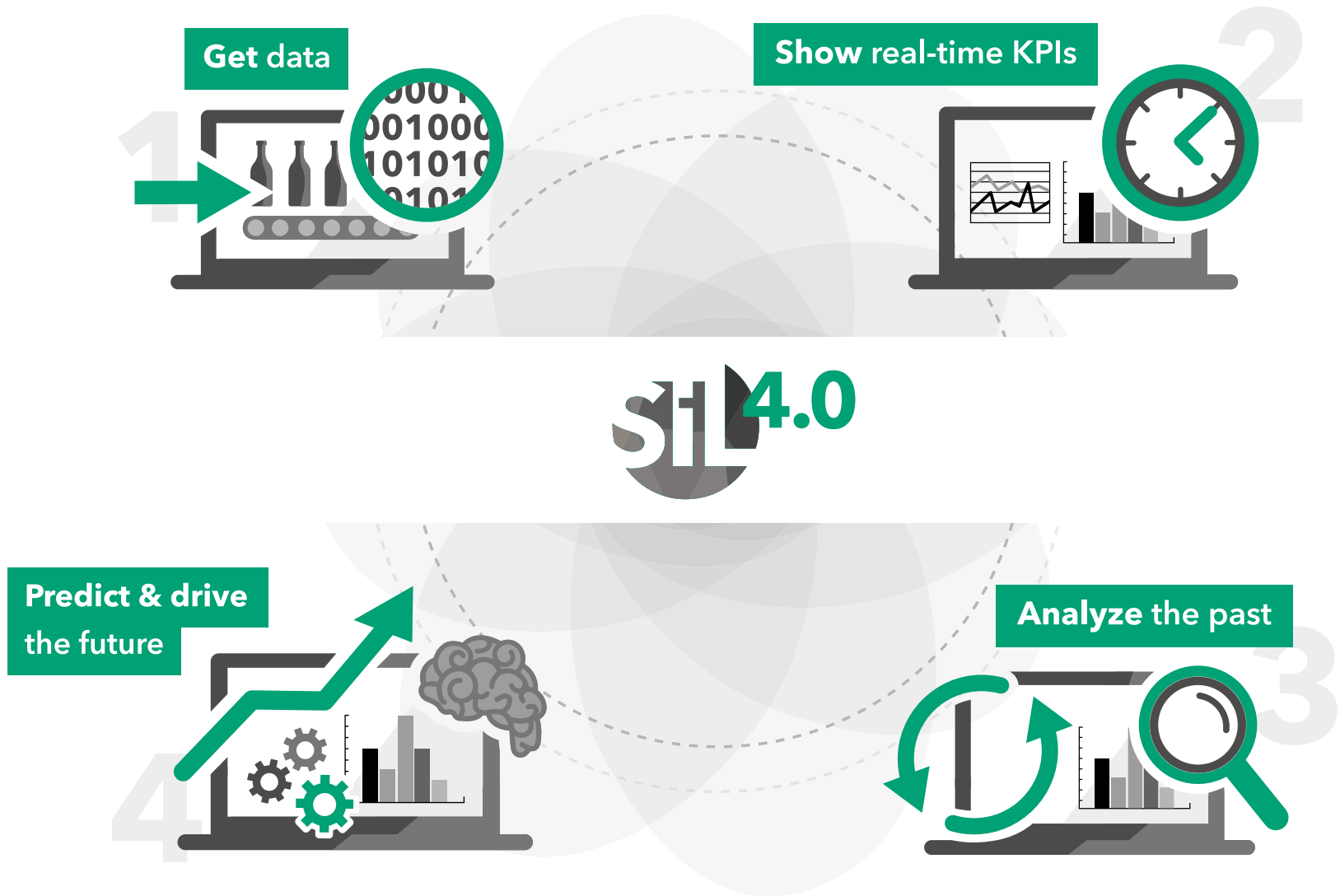
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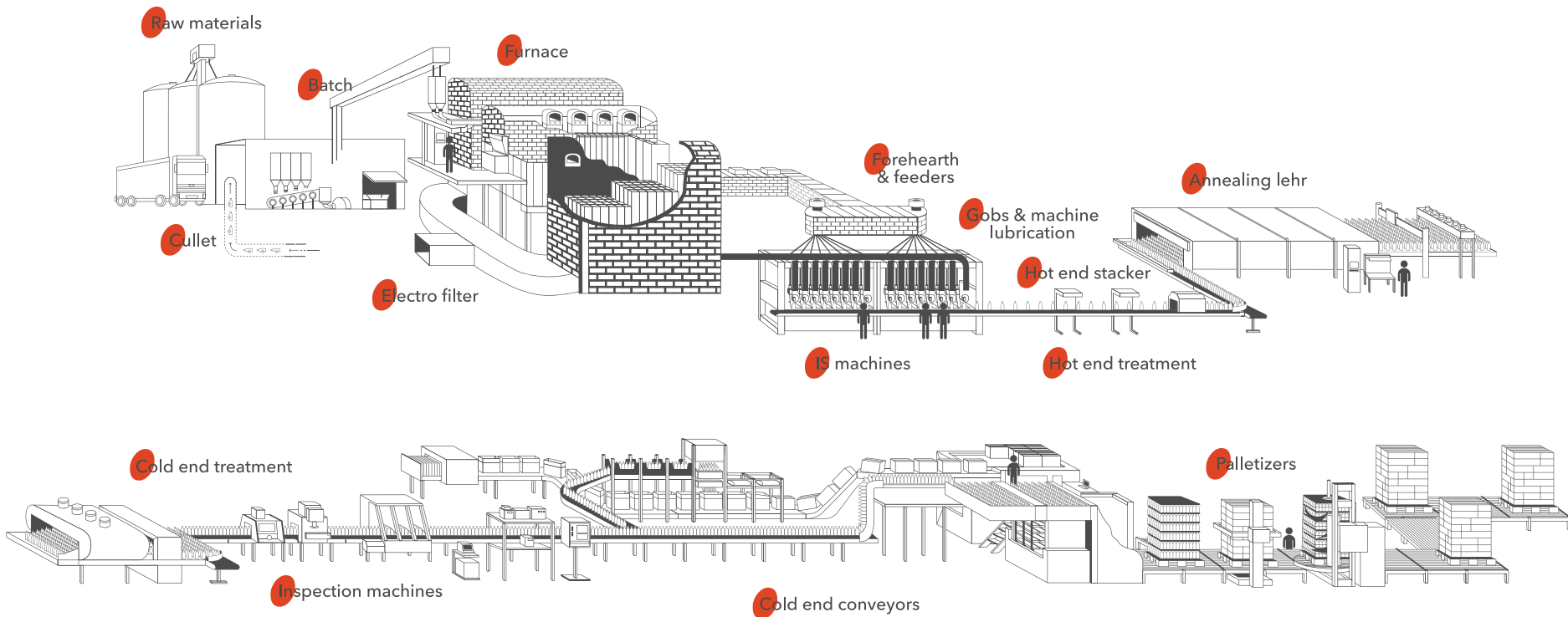


What's SIL4.0?



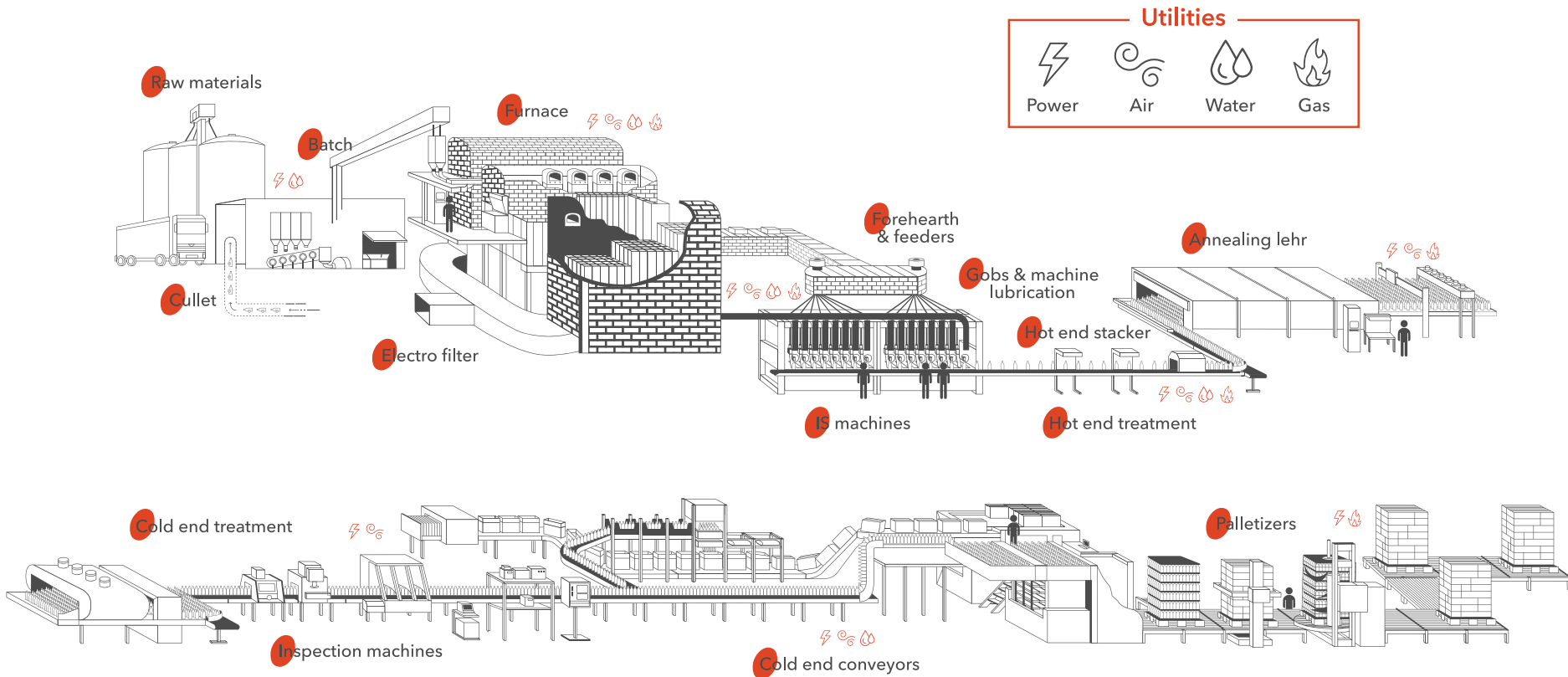
Where does SIL4.0 acquire data?

Everywhere in the glass plant where sensors can be connected!



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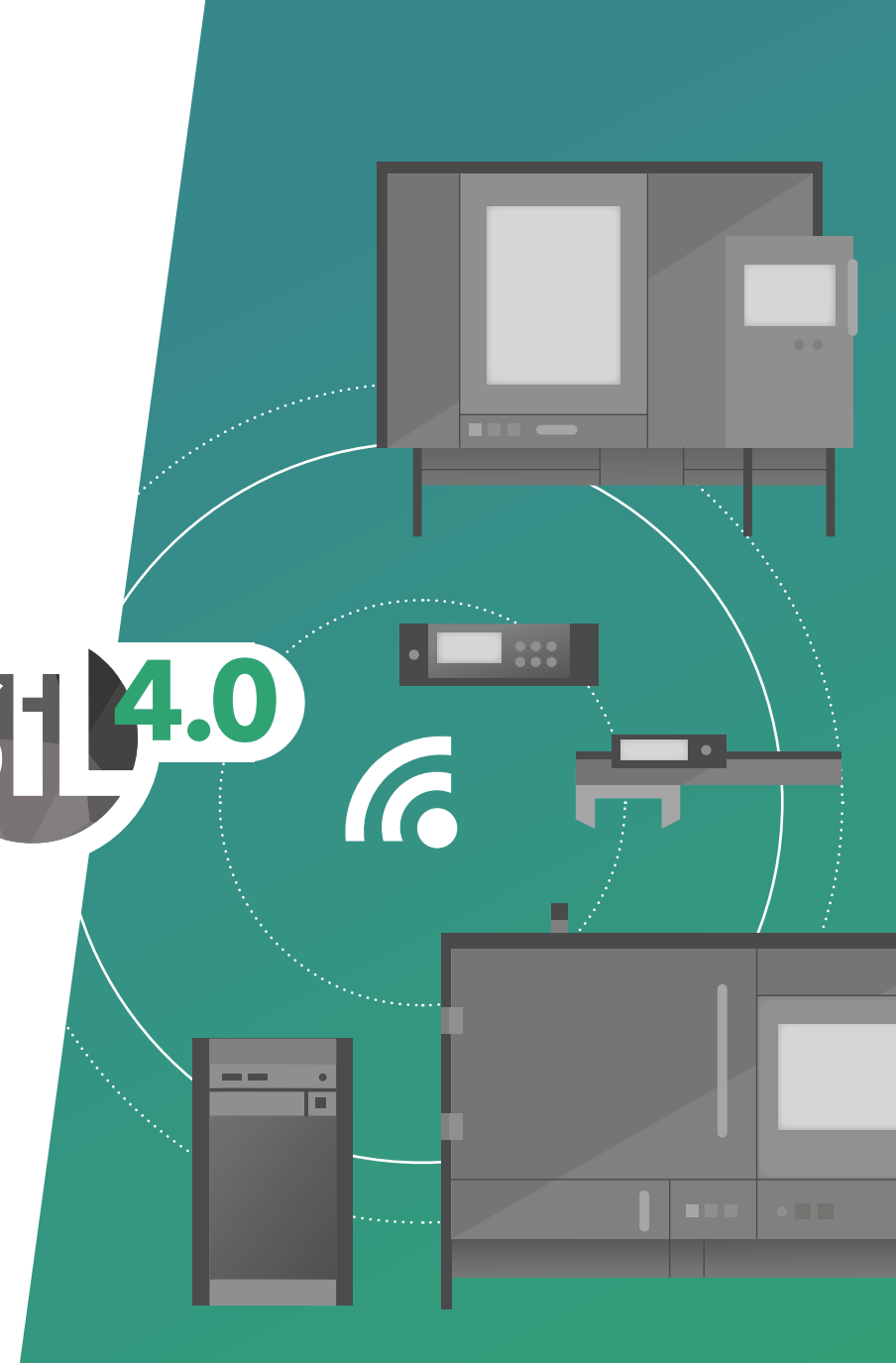
Communication Protocols

Vertech' adapts to **all communication protocols**:

- Modbus
- Webservices
- OPC-UA
- Database queries
- Profibus
- ...

...and can even help glassmakers develop **their own protocol**.

Industry 4.0



Bi-directional communication

SIL gets data from sensors and machines... but is also able to send **information to machines**

- Settings to IS machine
- Temperature to the lehr
- ...

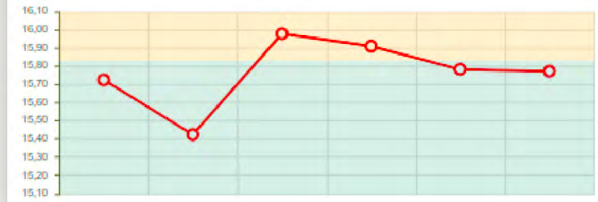


How are data displayed?

KPIs are displayed on
customizable dashboards:

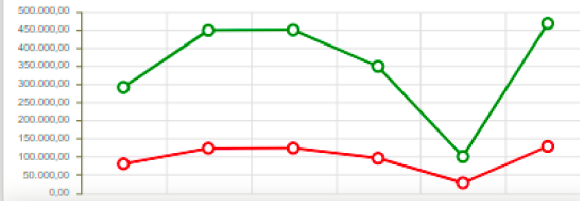
- Stock of raw materials
- Temperature in the furnace
- Temperature in the lehr
- Daily CO2 emissions
- Belt speed
- Consumption
- ...

Daily emissions



Consumption

Silo Database



Ventilators

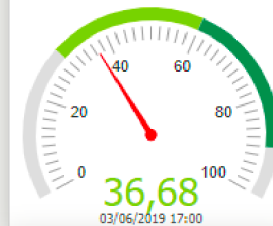
Lehr Line 12



03/06/2019 18:13

Stock in silo

Silo Database



Instantaneous

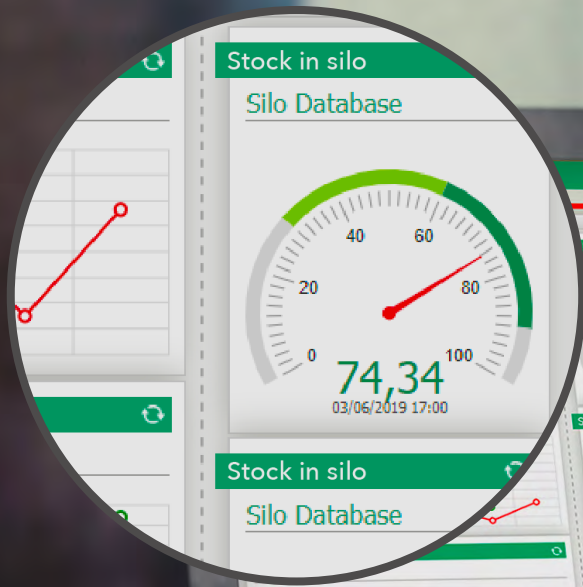


Belt speed

Lehr Line 12

7.000,00

03/06/2019 18:13



Stock in silo
Silo Database

Stock in silo
Silo Database

Several plants on one screen



Several plants on one screen

Perspectives

SiL 4.0



In progress...

Perspectives

"Finding correlations
in order to predict
the future"

SiL 4.0



In progress...

Perspectives

"Finding correlations
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SiL 4.0



In progress...

*Close collaborations
with research institutes
and glassmakers*



Thank you for your attention!

**I will be happy to answer
your questions**