Sample screens' illustrations representing Digital Twin interactions with a plant manager

> Web application screens Stage 0 Model



Plant Monitoring Dashboard

🗘 Main Menu 🔰 Mobile Eve	ents Log 🛛 i	Tools	Portal	Central	Navigate	Help Type your search	here Q 📄 AB/	A_1 →
Wizard Events Navigate Pret	fere Help		? _ nin	Map	Depen Tags Chees			
Monitor Cheese production	n factory 🗸							۲
Object Name	Status	۲		las.	Tags	Calculated by engine 🔻	Updated on monitor	Info
Production	æ			East	Cheese, Productions, Cream, Butter, Yogurt	2021-07-24T13:00:37	2021-07-24T17:42:21	(
Environment, Health, Safety	<u>@</u>				Safety, Health, Environment	2021-07-24T12:00:12	2021-07-24T17:42:21	i
Dairy Factory Digital Twin all data	200		Ð		Cheese, Factory, Agro, SME	2021-07-24T07:00:35	2021-07-24T17:42:21	i
Suppliers					Electricity, Suppliers, Milk, Ingredients, Water	2021-07-24T07:00:34	2021-07-24T17:42:21	i
Finance	Пà				Costs, Revenue, Finance, Profitability, Growth, Turnover	2021-07-23T13:00:15	2021-07-24T17:42:21	i
Customers	6				Customer, Resellers, Distributors	2021-07-23T08:00:39	2021-07-24T17:42:21	i
Employees	888			Part	Employee, Services, Production, Office, Maintenance	2021-07-08T10:47:20	2021-07-24T17:42:21	i

Represents holistic ongoing status of each object. By a click on the object name or relevant icon an user can access the relevant detailed reports and analytics. Dashboard objects can be searched by tags. The dashboard objects and reporting can be customized according to user preferences and role.

Report for "Dairy Factory Digital Twin all data" 🛷								
Overview Descriptors Indicators Data Elements Sensors Video cameras Constants								
<image/>								
Object name:	Dairy Factory Digital Twin all data							
Current state:								
Report date & time:	2021-07-24T19:48:58							
Path:	Dairy Factory Digital Twin all data							
Optional object states								
③ Sub-objects and their states								
Object		Map	State	Impact on the state				
<u>Production</u>			e	✓				
<u>Customers</u>			8	*				
<u>Suppliers</u>				✓				
Employees			8 8 8	*				
<u>Finance</u>				~				
Environment, Health, Safety			@ <u>r</u> _	~				

Full report Page1 of 7 pages for the Dairy Plant. The icons represent current object statuses: Green - Excellent, Blue – Normal, Red – Deficient (i.e. there are ongoing problems).





Product: Yogurt, Indicator "Labor Productivity per product per day"



Product: Yogurt, Indicator "Cost of raw material wasted due to defects per day"

Cost of raw material wasted due to defects per day						
Last indicator state:	target0					
Last indicator value:	0					
Last calculation timestamp:	2021-07-24T09:00:53					
Trend for the indicator:	🔐 (min)					
Formula:	(Quantity of products produced with defects per day (indicator)+Quantity of product failed audit prior to shipment to customer per day (indicator)+Quantity of product returned by cus					
	per day_(indicator))*(Costs of raw materials used for production per day_(indicator)/Quantity of products produced per day_(indicator))					
Measurement Units:	C_u					
Absolute historic maximum value:	8.187					
Absolute historic minimum value:	0					
Optional merging:	Yes					
Calculation of targets:	automatic					
W H 9 9 8 7 7 7 6 6 5 5 4 6 3 3 2 2 1 6						
Data August September October No	ovember December 2021 February March April May June July	,				

Overview of the plant model complexity (Stage 0)

Digital Twin Business Objects	# of data sources	Total # of KPIs	Total # of objects and its statuses
Production of 6 products (Cheeses, Butters, Yogurts)	60	132	9
Customers in 3 groups (Restaurant chain, Dairy retailer, Hotel chain)	21	30	4
Suppliers 4 companies (Milk, Ingredients, Water, Electricity)	24	36	5
Employees in 3 groups (Office, Production, Services)	33	63	4
Finance in 3 subgroups (Revenue, Costs, Profitability, Growth, Turnover)	3	12	4
Environment, Health, Safety (EHS)	11	11	1
Factory as top-level business object			1
Totals for the Digital Twin model	152	284	28

Each plant object is Smart, it is calculating own performance according to planned targets and reports the results to the Plant Manager and operators in real time.

Reference site: <u>Dairy.Pharosnavigator.com</u>