

The background of the slide features a silhouette of several construction cranes against a sky with soft, colorful clouds in shades of purple, blue, and orange, suggesting a sunset or sunrise. The cranes are positioned at various heights and angles, creating a sense of depth and industrial activity.

EC&O Model Company

A pre-defined solution to accelerate business transformations
with SAP S/4HANA for project businesses.

Webinar, 25 November 2021

Content



Today's challenges in EC&O



The BearingPoint EC&O Assets and Model Company



Demo



Summary and Q&A

Companies with focus on EC&O facing multiple challenges

Challenges in project business

PRODUCTIVITY ISSUES*



LACK OF PRODUCTIVITY COMPARED TO MANUFACTURING AND EVEN THE TOTAL ECONOMY.

LACK OF INTEGRATION



NON-INTEGRATED BUSINESS PROCESSES ALONG THE ENTIRE VALUE CHAIN.

MANUAL PLANNING EFFORT

INSUFFICIENT USAGE OF IT SOLUTION TO EXECUTE AND AUTOMATE SPECIFIC PLANNING TASKS. THUS, DEPENDENCIES AND RISKS IN DATA CAN NOT BE RECOGNIZED.



FINANCIAL OPACITY

CHASING FOR THE LAST AND ACCURATE CALCULATION. MISSING TRANSPARENCY AND TRACEABILITY OF ENGINEERING CHANGES.



TECHNOLOGICAL DISRUPTION

COMPETITORS WHO CAN DEAL WITH NEW TECHNOLOGIES SUCH AS 3D PRINTING, ARTIFICIAL INTELLIGENCE (AI) OR ADDITIVE MANUFACTURING CAN DISRUPT EXISTING BUSINESS MODELS OF TRADITIONAL COMPANIES WITH FOCUS ON CONSTRUCTION, ENGINEERING AND OPERATIONS (EC&O) PROJECTS.

OUTDATED

PROJECT METHODOLOGIES

USAGE OF CLASSICAL PROJECT METHODOLOGIES LEAD TO LESS FLEXIBILITY AND RISKS RATHER THAN AGILE OR HYBRID APPROACHES.



INSUFFICIENT COLLABORATION



SILLO ORGANIZED PROJECT TEAMS FOSTER INFLEXIBILITY IN CRITICAL SITUATIONS.



DATA RE-ENTERING AND INTERPRETATION

TRANSFERRING INFORMATION FROM MULTIPLE ISOLATED DATA SOURCES (E.G. EXCEL AND 3RD PARTY SYSTEMS) REQUIRES LEADS TO ADDITIONAL EFFORT.

DELAYS IN PROJECT DATA

NO REAL-TIME DATA AND MANUAL INTEGRATION OF ACTUAL DATA FROM THE CONSTRUCTION SITE.



COMPETITION

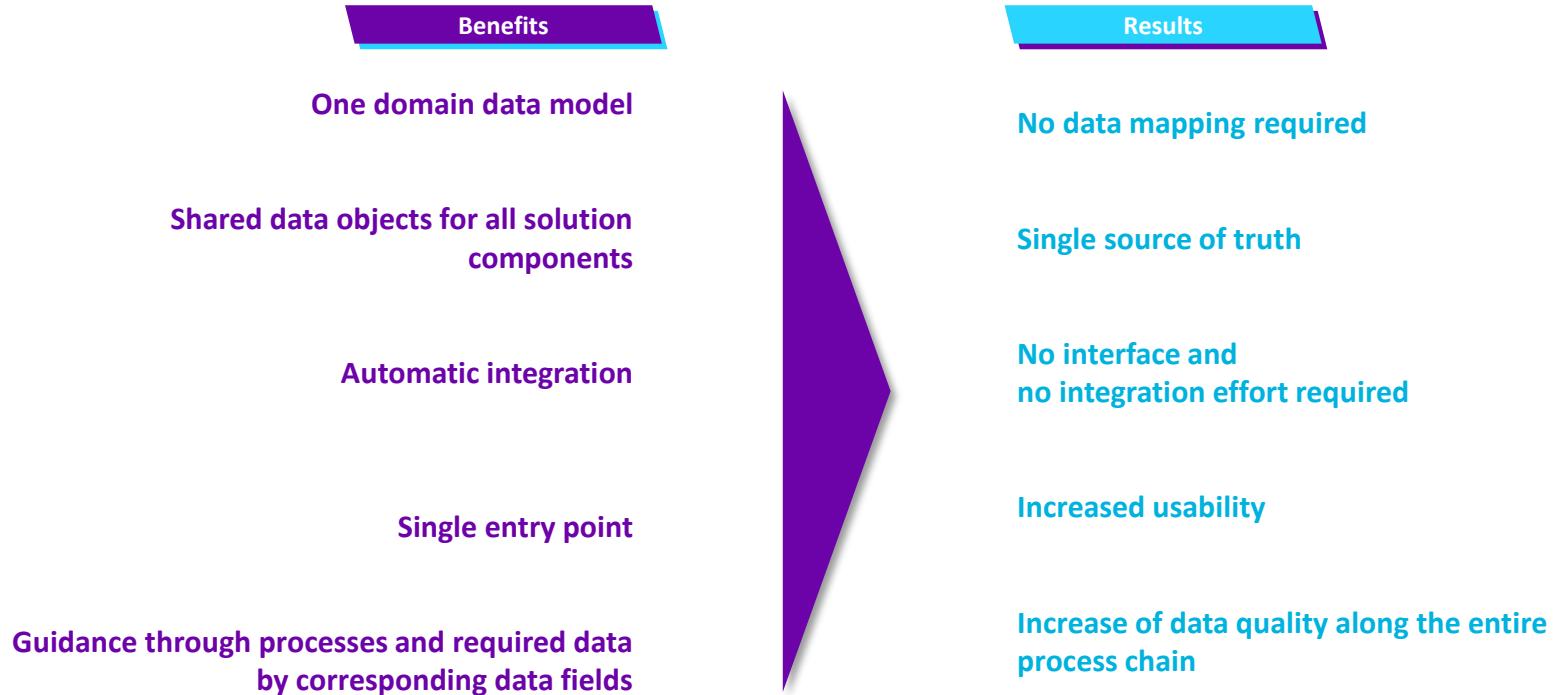
THE NEED TO POSITION THE CLIENT IN THE CENTER (CUSTOMER CENTRICITY) AND AN INCREASED DEMAND FOR HIGHLY CUSTOMIZED SOLUTIONS AS WELL AS MORE SERVICES REQUIRES FLEXIBLE STRUCTURES.



*Economist 08/2017

General benefits of the real-time integration by S/4HANA Enterprise Project Management

S/4HANA business benefits



Content



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The BearingPoint EC&O Assets and Model Company



Demo



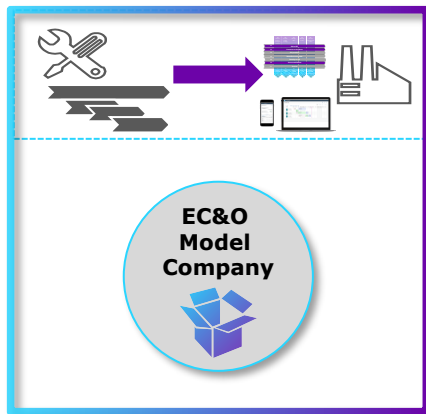
Summary and Q&A

Our proven EC&O experiences based on best practices and pre-defined solutions

Assets to implement and rollout a SAP S/4HANA template successfully

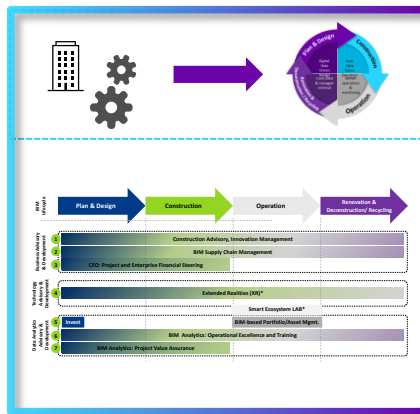
**Accelerate
EC&O process
deployments**

EC&O Model Company



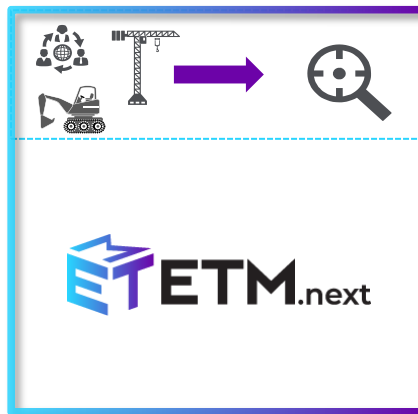
**Increase efficiency
along the entire
building lifecycle**

Building Information Mgmt. Consulting



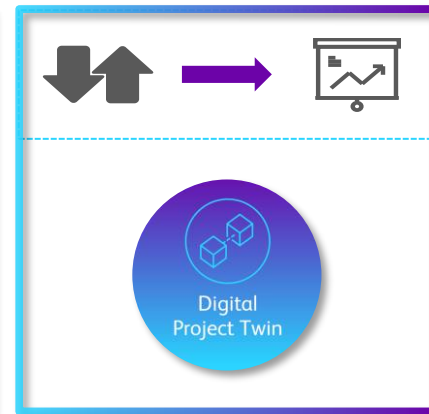
**Ensure digital and
holistic mgmt.
equipment & tools**

Equipment & Tools Management



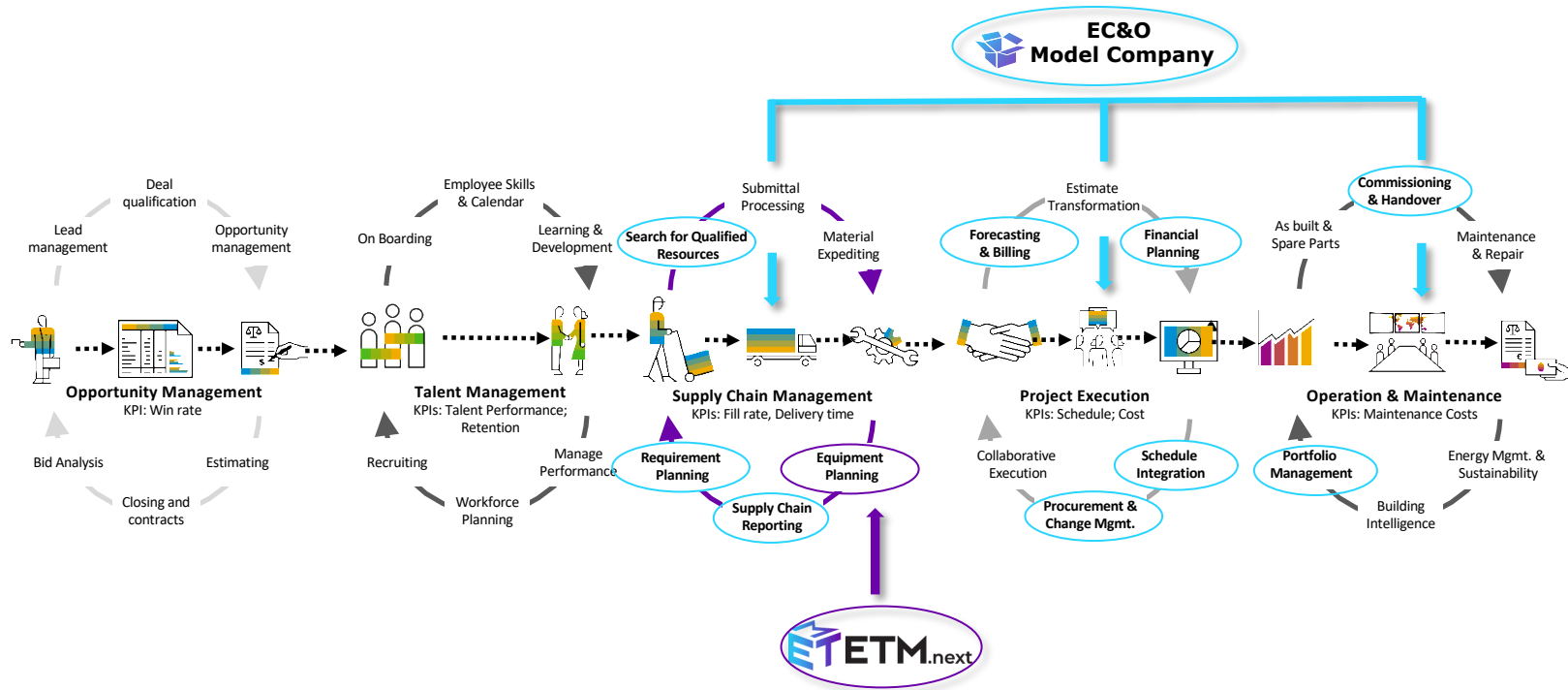
**Enable
best-in-class digitised
project business**

Digital Project Twin Framework



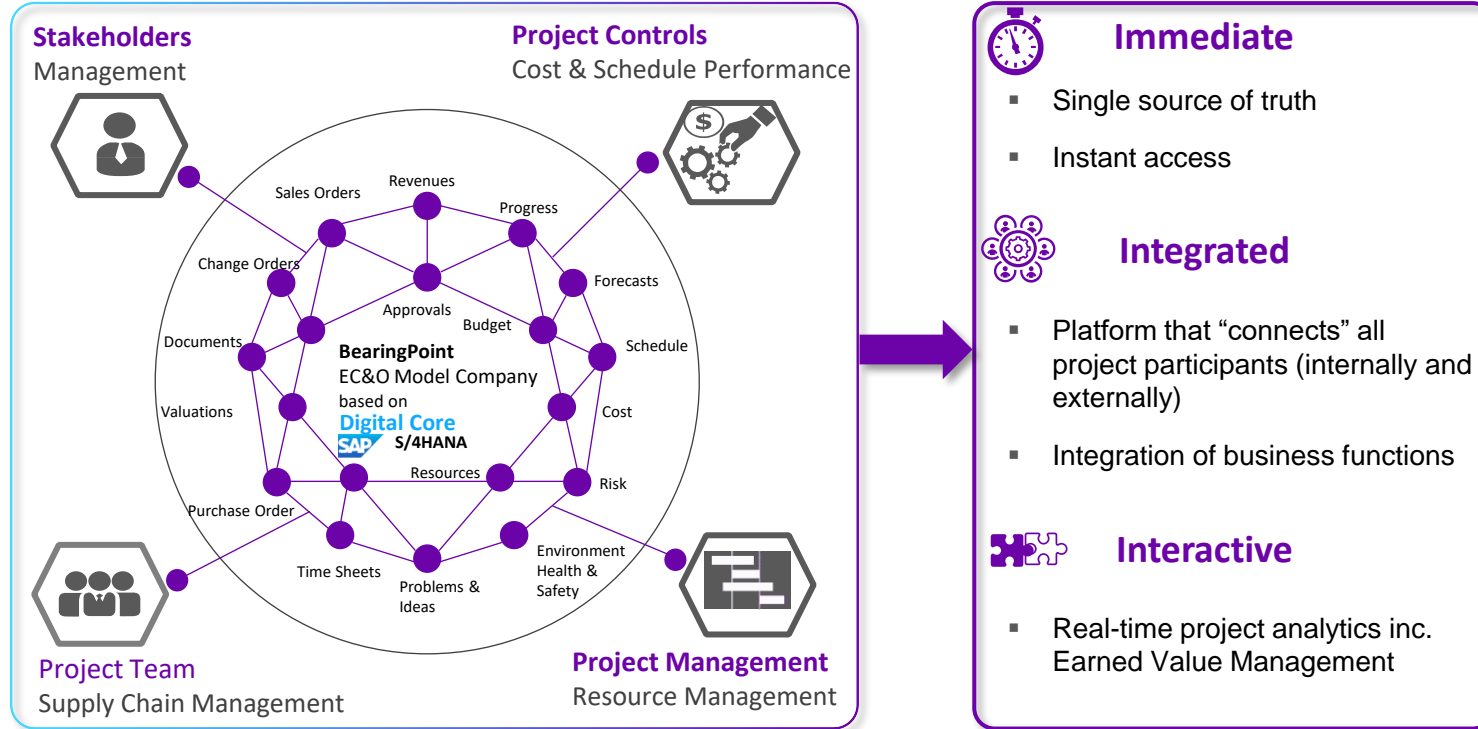
The EC&O Model Company is a further corner stone to support end-to-end process functionality by a standardised pre-packaged solution based on SAP S/4 Hana

Support of end-to-end functionality by intensive project portfolio management functionality



A digital core based model company offers various benefits through the integration of functions and stakeholders

Benefits of the digital core based on S/4 Hana and the BearingPoint EC&O Model Company for contractors



The EC&O Model Company covers several disciplines to enable end-to-end functionality (1)

EC&O Model Company functionality



Sales and Distribution

BENEFITS:

- Supporting continuously management of the sales pipeline.



Project Management

BENEFITS:

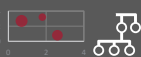
- Planning and execution of projects in time and budget.



Material Management

BENEFITS:

- Management of materials and procurements to ensure availability.



Portfolio Management

BENEFITS:

- Strategic management of multiple projects to ensure business success.



Equipment & Tools Management

BENEFITS:

- End-to-End integration of ETM.next into the ERP core processes



Finance Management

BENEFITS:

- Ensure correct allocation of cost according to source of consumption.



Project Reporting & Analytics

BENEFITS:

- Safeguarding of projects by increased transparency and ad-hoc data access.



Human Capital Management

BENEFITS:

- Administration of staff and organizational structure to ensure effort allocation



Site Management

BENEFITS:

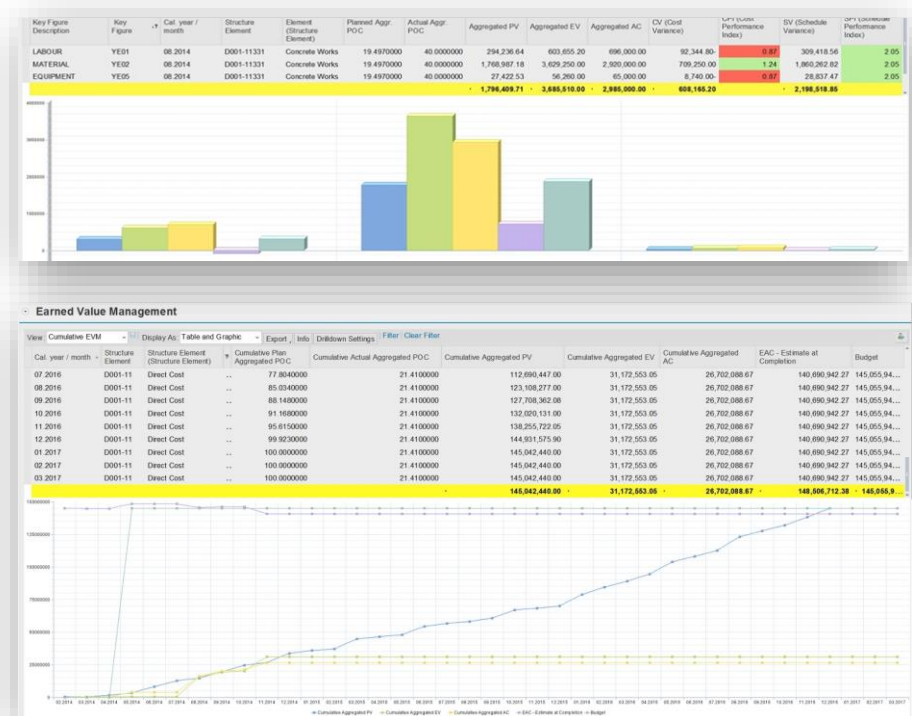
- Management of the site activities and resources to ensure progress

Hot Feature: Earned Value Management of the Model Company

Project performance and forecasting

- Get insights with real time Earned Value Analytics
- CPI* and SPI* on every WBS
- Drill down to Labour, Plant, Material and Sub-contract cost
- Forecast the EAC* based on actuals and a time phased Cost Plan
- Predict budget overruns at an early stage

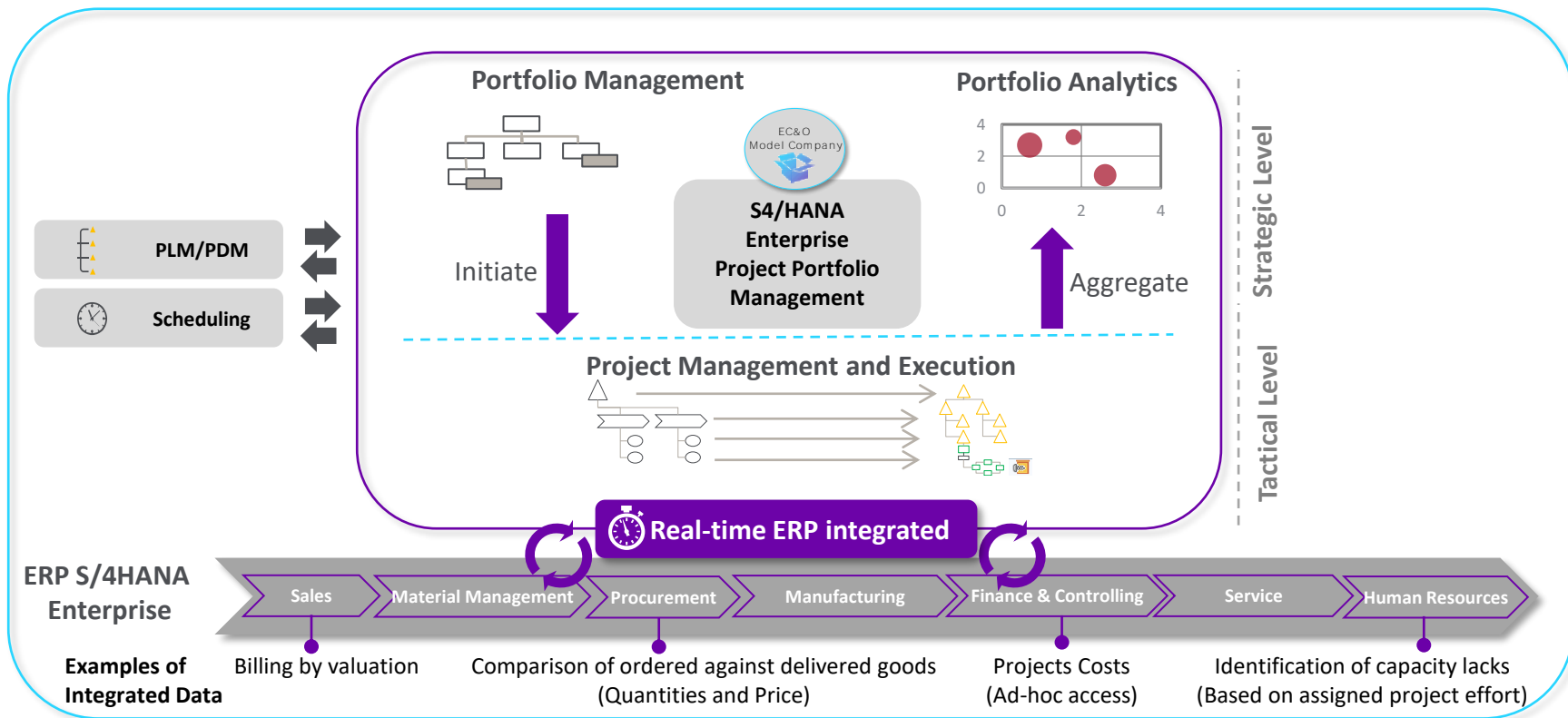
➡ better safeguarding of projects



*CPI – Cost Performance Indicator, SPI – Schedule Performance Indicator, EAC – Estimate At Completion

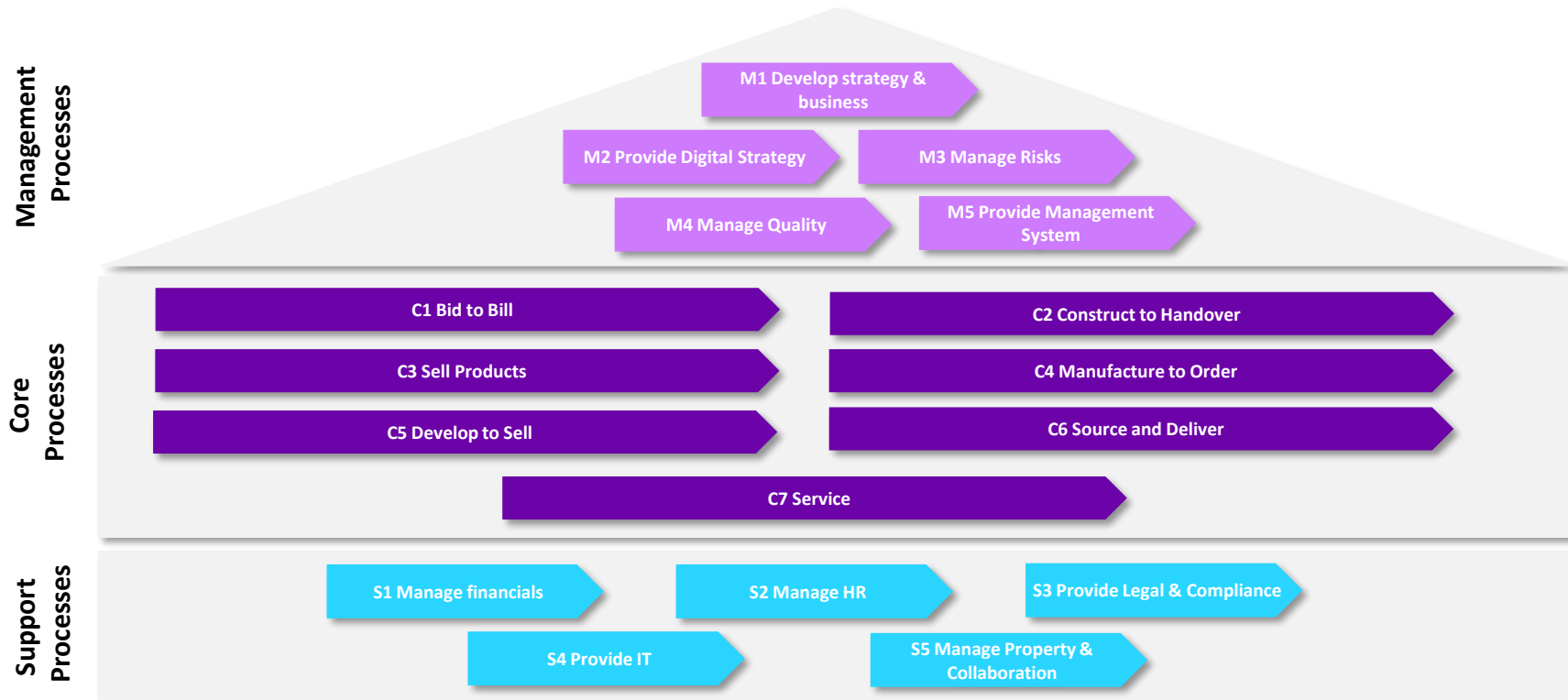
Our EC&O Model Company supports companies to achieve highly integrated business processes

Solution Overview



Our model company is capable to offer a wide range from single functionalities to the entire value chain (end to end) in a large business process landscape

EC&O Business Process Toolbox



The Business Process Toolbox of the EC&O Model Company covers end-to-end functionality down to the different process levels including process profiles and process flows

EC&O Business Process Toolbox

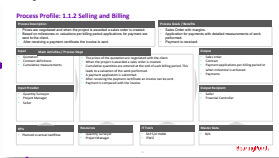
1.) Business Process House



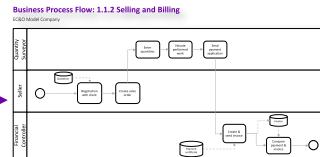
2.) End to End Business Core Processes down to Level 2/3



3.) Business Process Profiles



4.) Business Process Visualisation

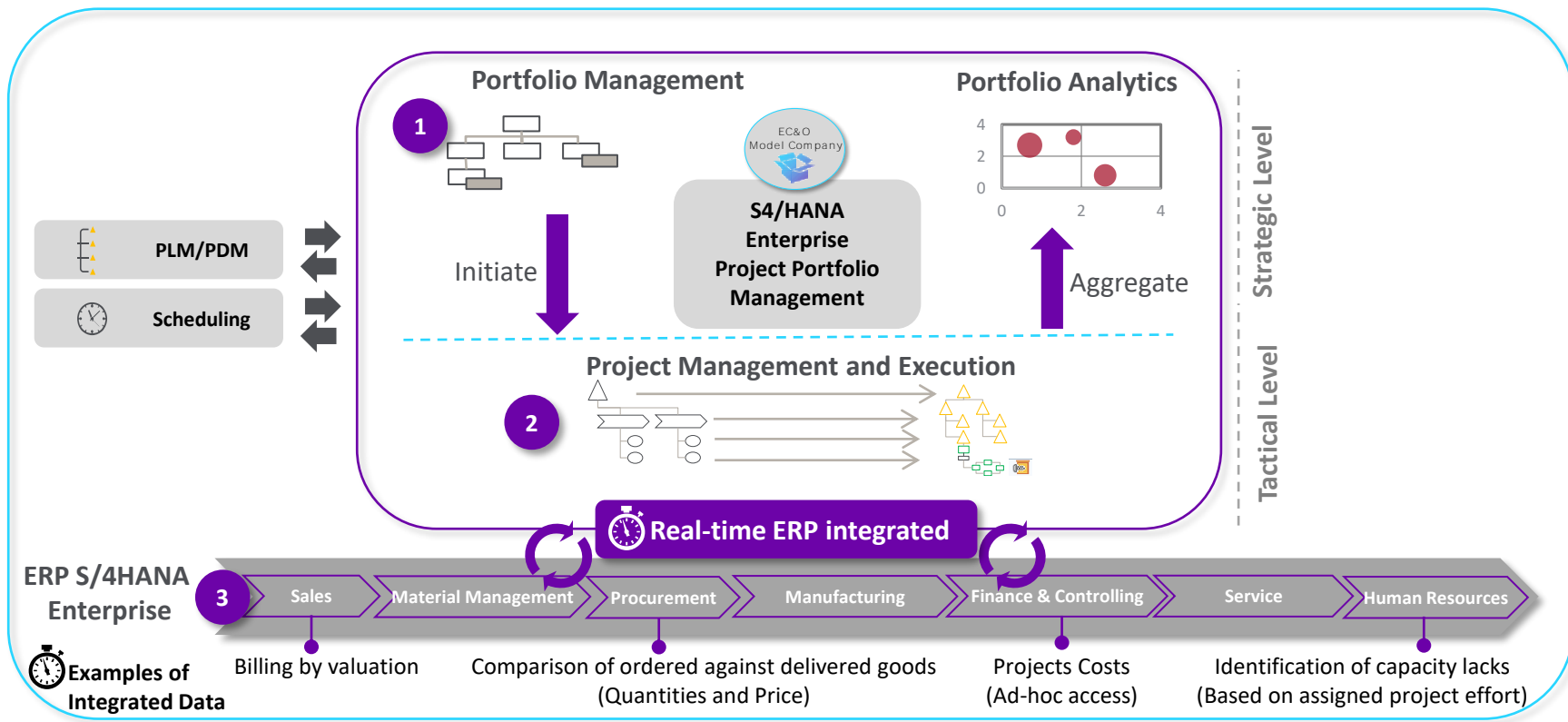


Generated benefits by the Business Process Toolbox of the Model Company

- ✓ **Demo System:** Immediate demonstration of leading practice processes in the system
- ✓ **Process Profiles:** Level 2/3 Process descriptions incl. activities, roles, and KPIs
- ✓ **Process Visualization:** Visualisation by process swimlanes
- ✓ **Process Comparison:** Comparison of existing processes vs. to-be leading practice
- ✓ Foster a **common process understanding**
- ✓ **Guidance in workshops** and expert discussion supported by practical examples

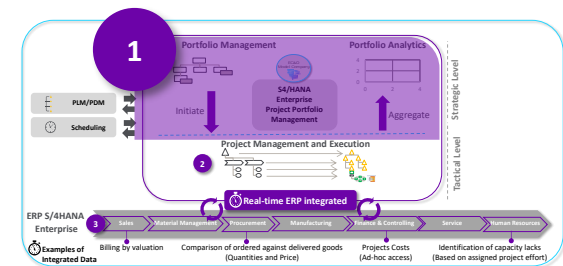
Our EC&O Model Company supports companies to achieve highly integrated business processes

Solution Overview



Portfolio Management: Selected features and benefits according to business challenges

S/4HANA business benefits – Portfolio Management



Challenges

Holistic view of the project portfolio

Overview of all project financials

Integration between the strategic and tactical view of the project

Identification of impacts due to unexpected changes

Features

Pre-defined portfolio structure by e. g. subsidiaries and line of business

Aggregation of project costs along the entire portfolio

Execution of What-If analysis

Comparison of multiple projects based on key figures and project visualisation via Gantt chart

Benefits

Separation of the organisation and corresponding financials

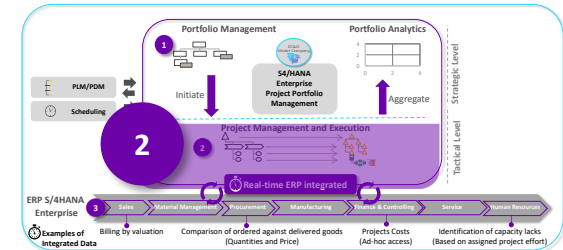
Ad-hoc analysis of financials in the portfolio

Risk mitigation by simulation of unexpected events

Fast-overview of all running projects in the organisation based on dashboards

Project Management & Execution: Selected features and benefits according to business challenges

S/4HANA business benefits – Project Management & Execution



Challenges

Accurate and timely project performance reports

Prediction if the project will be delivered on time, within budget

Rework and communication issues on site

Clashes and over allocation of staff, workers and skill mismatch

Late and untrusted information from sites

Features

Earned Value Management analytics

Forecasting of cost and time with budget comparison

Planning board with tasks on locations and dates

Workforce management and clash detection

Real time data from the site

Benefits

Detection of deviations from the plan and root causes

Early action enabled to correct problems

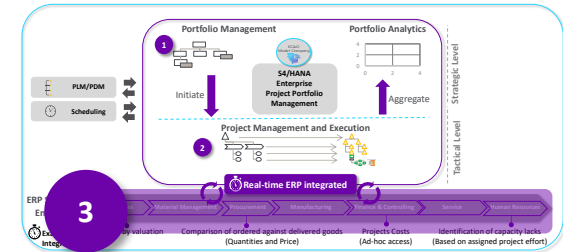
Improved communication and collaboration, better flow of work

Automated verification of skill matches

Visualisation of actual site data enables corrective actions in advance

S/4HANA Enterprise: Selected features and benefits according to business challenges

S/4HANA business benefits – S/4HANA Enterprise



Challenges

Complex contract and payment conditions

Comparison of planned costs with actual costs

Payment applications based on cumulative values

Correct timesheets for payroll and controlling

Features

Payment chains

Configured CO module

Debit memos with cumulative values

Timesheets with entries against WBS and time types

Increase of data quality along the entire process chain

Benefits

Automated application of contract conditions in payment applications.

Actual costs generated at the time of consumption just as in the estimate

Automated flow from valuation to payment application

Automated feed of timesheet data into actual cost (ready for payroll feed)

Content



Today's challenges in EC&O



The BearingPoint EC&O Assets and Model Company



Demo



Summary and Q&A



DEMO

Content



Today's challenges in EC&O



The BearingPoint EC&O Assets and Model Company



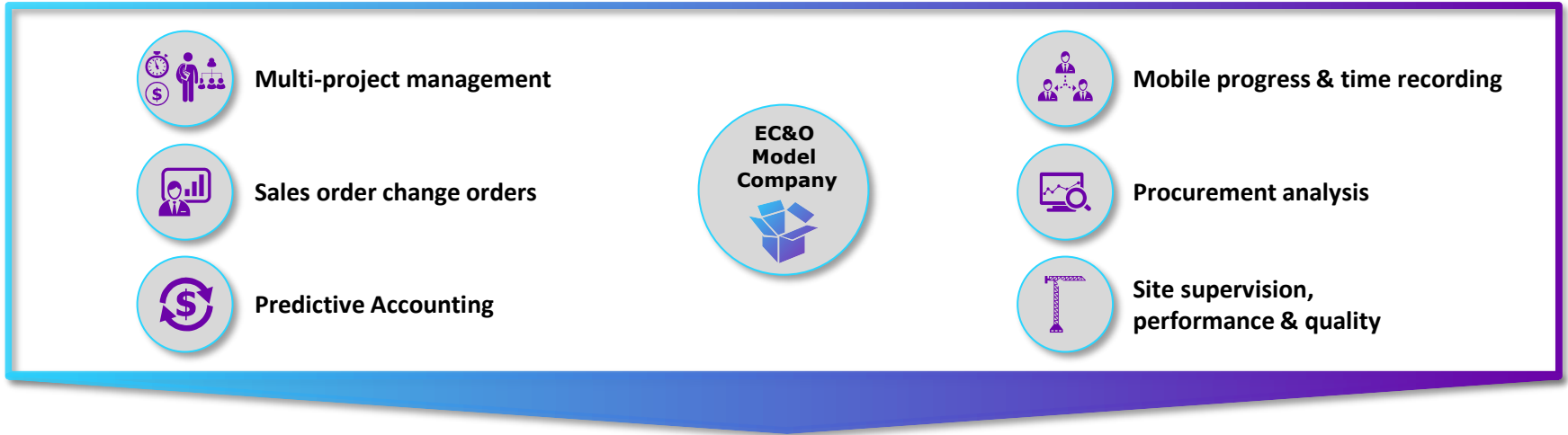
Demo



Summary and Q&A

EC&O Model Company delivers industry specific transformation benefits

Overview of selected functions



We understand your project business!



**Accelerated template build by
EC&O specific business content**



**Improved quality and minimized risk
(pre-configured system)**

Take aways: Overview

Summary

- The BearingPoint EC&O Model Company accelerates SAP S/4 transformations by pre-defined processes and solutions.
- Our S/4 services offer a comprehensive framework to support the business transformation to a digitized company able to offer new business models. The corresponding implementation methodology offers fast and sustainable results.
- The model company supports transparency and efficient end-to-end project lifecycle management by connecting data based on integrated sensory or project businesses.
- Various processes and features for Engineer to Order such as Multi-Project Management, Resource Management, Long Lead Item Management or Valuated Project Stock are covered.
- The EC&O model company is fully integrated in the S/4HANA Digital Core with state of the art technologies and able to build your project enterprise backbone

The EC&O Model Company is the basis for a digital transformation to assure value by full transparency with a wide range of functionality. This fosters an accelerated project execution time by integrated planning and ad-hoc analysis as well as to mitigate risks by financial transparency and simulations.

Q & A

Thank you!

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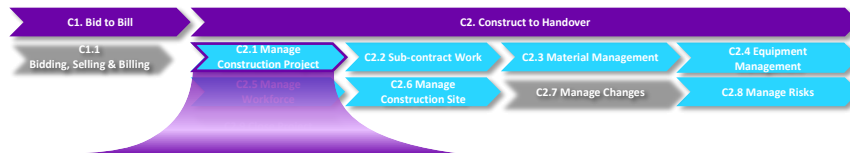
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APPENDIX



1 Portfolio Management of the EC&O Model Company – Screenshots & Demo

EC&O Model Company – Project Creation / Portfolio Item Overview



1

- A clear cockpit allows high useability.
- Projects are numbered automatically in the system for a unique identification.

SAP Item: High-Tech Factory

Read Only Refresh Reporting Cockpit Financial and Capacity Planning Print Fact Sheet Project Timeline Monitor Risk Management You can also

✓ Data saved successfully
Display Message Log

Company structure already specified

EC&O Group Portfolio > Group > ETO > Germany > High-Tech > High-Tech Factory Language: English

Budget, schedule, staffing status at a glance

EO-0000147 Called From: Portfolio EC&O Group Portfolio ID: EO-0000147 Name: High-Tech Factory Type: EC&O Projects Budget Status ☐ On Budget Schedule Status ☒ Staffing Status ☐ Properly Staffed

QG1 - Release for Design → QG2 - Release for Procurement → QG3 - Release for Production & Test → QG4 - Release for Construction Site → QG5 - Release for Buy-Off → QG6 - Release for Project Closure

Overview Phases and Decisions Deliverables Relationships Documents and Notes Miscellaneous Custom Component

General Information **Additional Information** Classification Financial Information Capacity Information

Project information about objects and attributes instead of project numbers

Automatic numbering of the project

Key Information

* Name: High-Tech Factory
Status: In Progress
Project Management Template: ☐ Create Project on Saving
Priority: 03 High
Description: Item for the new High-Tech Factory
Proposal: ☐
Escalation: ☐

ID: EO-0000147
Type: EC&O Projects

Initiative Name: Remove Image

Dates

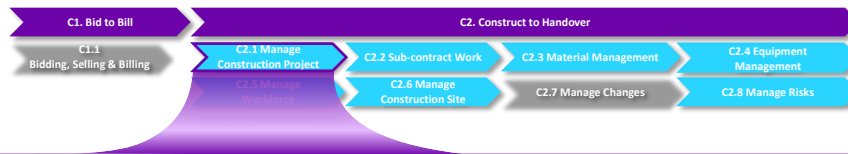
Forecasted Start/Finish: 31.05.2021 / 30.12.2022
Planned Start/Finish: 31.05.2021 / 30.12.2022
Days Left Until Finish: 578
Days Left Until Next Decision: 0

Save Close

The portfolio item summarizes all project related data in an aggregated way.

Process C2.1 Manage Construction Project

EC&O Model Company – Decision Point / Quality Gate Management



1

Description

- Start, finish, and decision dates can be defined for three different occasions: (1) forecast, (2) plan, and (3) actual project progress
- Decision dates function as quality gates.

The screenshot shows the SAP interface for 'Decision Point: QG1 - Release for Design'. The 'Key Information' section displays the decision point name, status (In Progress), and responsible role/resource. The 'Dates' section is highlighted with a red box and contains the following data:

| | (1) Forecasted Start/Finish | (2) Planned Start/Finish | (3) Actual Start/Finish |
|-------------------------|-----------------------------|--------------------------|-------------------------|
| Forecasted Start/Finish | 31.05.2021 / 30.07.2021 | 31.05.2021 / 30.07.2021 | |
| Planned Start/Finish | 31.05.2021 / 30.07.2021 | 31.05.2021 / 30.07.2021 | |
| Actual Start/Finish | | | |

The 'Relevant dates to schedule quality gates' section also displays the following data:

| | Forecasted Decision Date | Planned Decision Date | Actual Decision Date |
|--------------------------|--------------------------|-----------------------|----------------------|
| Forecasted Decision Date | 30.07.2021 | 30.07.2021 | |
| Planned Decision Date | 30.07.2021 | 30.07.2021 | |
| Actual Decision Date | | | |

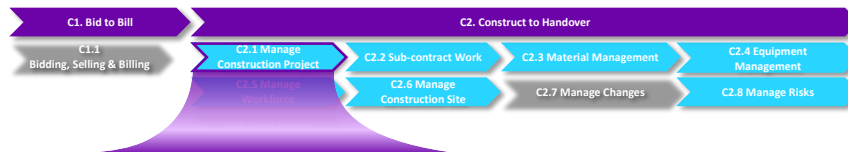
Relevant dates to schedule quality gates



Set key information and dates for decision points.

Process C2.1 Manage Construction Project

EC&O Model Company - Risk Management & Risk Assessment



1

Description

- Integrated questionnaires allow to rate and assess project risks on standardized rating scales (low-med-high).

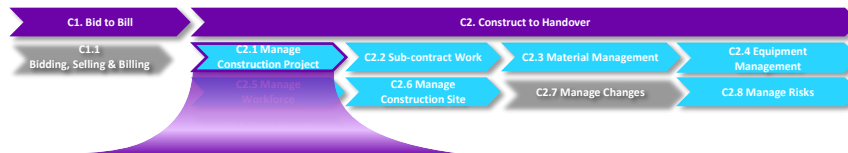
The screenshot shows the SAP Risk Management interface for item E0-0000147. The main navigation bar includes 'Risk Management'. The left sidebar shows the 'Questionnaire' section. The main content area displays the 'Current Decision Point Information' for 'QG1 - Release for Design'. The 'Risk Assessment' section shows 'Probability Technical Success: 038', 'Assessed Risk: 040', and 'Derived Risk: 041'. The 'Risk status indication' section shows 'Probability Commercial Success: 080', 'Assessed Risk Status: Medium', and 'Derived Risk Status: Medium'. A callout box titled 'Questionnaire' provides details for 'YNQCN_8', including 'Total Score: 080', 'Assigned to Field: Probability Commercial Success', and a list of 5 risk items with their status (Low, Medium, High).



Manage the risks for the status points and evaluate them through questionnaires by assessing probabilities.

Process C2.1 Manage Construction Project

EC&O Model Company – Document Management



1

Description

- All project related documents can be stored in the corresponding project.
- Document folder structures can be defined.

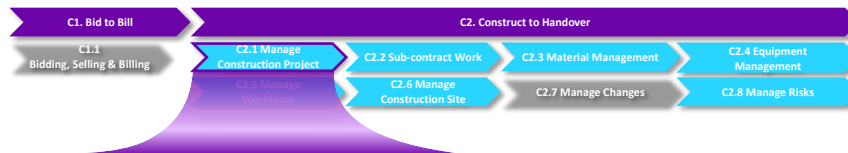
The screenshot shows the SAP Document Management interface for the 'High-Tech Factory' project. The top navigation bar includes 'Read Only', 'Refresh', 'Reporting Cockpit', 'Financial and Capacity Planning', 'Print Fact Sheet', 'Project', 'Timeline Monitor', 'Risk Management', and 'You can also'. Below this, a message log indicates 'Data saved successfully'. The main content area shows the project hierarchy: 'EC&O Group Portfolio > Group > ETO > Germany > High-Tech > High-Tech Factory'. The document ID is 'E0-0000147'. A workflow bar shows stages from 'QG1 - Release for Design' to 'QG6 - Release for Project Closure'. The 'Documents and Notes' tab is active, showing a 'File explore' view on the left and 'Document information' on the right. The 'File explore' view shows a folder structure: 'High-Tech Factory' > 'Design Specification' > 'Design Specification V1.0'. The 'Document information' view shows details for 'Design Specification V1.0', including its path, name, description, status, creation date, and file size (15 KB).



Manage your documents with an integrated document management that includes all the familiar functionalities (e.g., document paths, name manager and change history).

Process C2.1 Manage Construction Project

EC&O Model Company – Create operational project based on template



1

Description

- Project management templates allow the low-effort transfer of standardized project settings into the system.
- The operational project and therewith the connection to the tactical level can be initiated from the portfolio item.

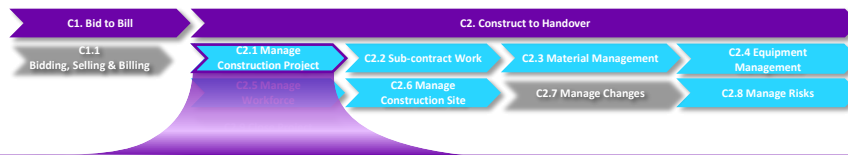
The screenshot shows the SAP Project Management interface for a project named 'High-Tech Factory'. The breadcrumb trail is 'EC&O Group Portfolio > Group > ETO > Germany > High-Tech > High-Tech Factory'. The project ID is 'E0-0000147'. The status is 'In Progress'. The project management template is 'EC&O Project Template (w/ On-Site)'. The priority is '03 High'. The description is 'Item for the new High-Tech Factory'. The initiative name is 'EC&O Projects'. The project is marked as 'On Budget'.



Set key information of your project (e.g., name, priority, and illustrative image) and easily transfer additional template information.

Process C2.1 Manage Construction Project

EC&O Model Company – Generation of the stage gate process



1

Description

- Phases from the operational project are shown on the strategic level and are combined with the quality gates to a stage gate process.
- Overall view of the project lifecycle supports the project execution with defined quality gates.

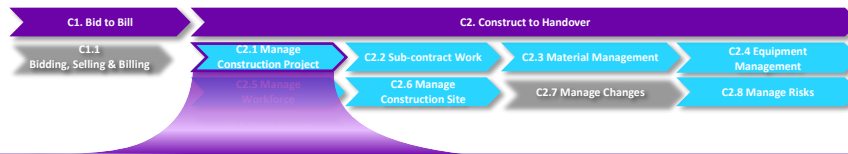
The screenshot shows the SAP S/4HANA project overview for 'High-Tech Factory' (Item: High-Tech Factory). The project is in the 'In Progress' status. The project lifecycle is visualized as a sequence of phases and quality gates (QG) connected by arrows. The phases shown are Preparation, Engineering, Procurement, Production In-House, Construction On-Site, and Project Closure. The quality gates are QG1 - Release for Design, QG2 - Release for Procurement, QG3 - Release for Production & Test, QG4 - Release for Construction Site, QG5 - Release for Buy-Off, and QG6 - Release for Project Closure. The project is currently in the 'Construction On-Site' phase. The 'Key Information' section shows the project name, ID (EO-0000147), status (In Progress), priority, and description. The 'Dates' section shows the forecasted start/finish, planned start/finish (31.05.2021 to 30.12.2022), and days left until next decision (59).



Stage gate process provides the full project picture by mapping underlying project phases to quality gates.

Process C2.1 Manage Construction Project

EC&O Model Company - Manage Project Structure



1

Description

- Project phases and elements are tracked.
- Percentage of completion, confirmed and remaining work as well as constraints.

The screenshot shows the SAP Project High-Tech Factory interface. The main menu includes options like Read Only, Check Conflicts, Item, Export, Print Fact Sheet, Create Version, User Settings, and You can also. The project ID is E0-0000147, and the Level of Severity is Created. The interface is divided into several tabs: Structure, Resources, Accounting, Status Reports, Project Versions, Project Charter, Search, and Milestone Trend Analysis. The Structure tab is active, showing a tree view of project elements. The 'Site Preparation' element is selected, and its details are shown on the right. The details include a table for project elements, a 'Dates' section with fields for Earliest Start/Finish, Latest Start/Finish, Forecasted Start/Finish, Start Constraint, Finish Constraint, Duration, and Work. The 'Confirmation' section includes fields for Actual Start, Actual Finish, and Rem. Work Manually. A 'Percent Completion' section shows 000% completion, with 0 confirmed work and 2,000 remaining work. A callout box highlights the 'Integrated from time recording / cost collector' feature.

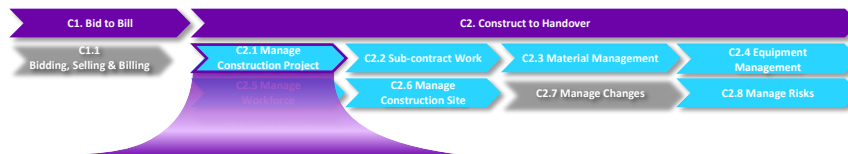
Integrated from time recording / cost collector



Manage the time and schedule for each project element with dates, floating, and work status (percentage of completion, confirmed work, and remaining work).

Process C2.1 Manage Construction Project

EC&O Model Company – Project Portfolio Management



2

Description

- Dashboard to steer projects based on risks.
- Risks KPIs integrated from defined questionnaires, KPIs and corresponding scoring model.

The screenshot shows the SAP NetWeaver Business Client interface for Portfolio Management. The left sidebar contains a navigation menu with options like Portfolio Structure, Classification Hierarchies, Portfolio Items (selected), Portfolio Initiatives, Reviews, Collections, and Services. The main area displays the 'Portfolio EC&O Group Portfolio' with tabs for Switch Portfolio, Switch Hierarchy/Bucket, Portfolio Details, and Search. Below these are tabs for All Items, Active Items, Active Proposals, Active Escalations, and Inactive Items. The 'All Items' tab is active, showing a table of project items with columns for Name, ID, Risk, Assessed Project Risk, Probability Technical Success, Probability Commercial Success, and Status. The table lists items from Item W1 to Item W9, with 'High-Tech Factory' selected. The status of all items is 'In Progress'.

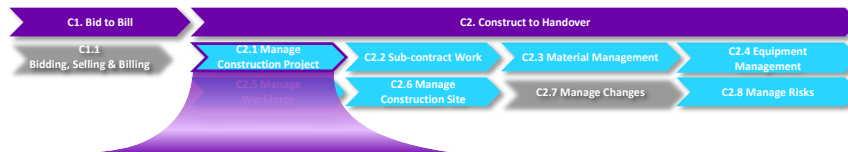
| Name | ID | Risk | Assessed Project Risk | Probability Technical Success | Probability Commercial Success | Status |
|-------------------|------------|------|-----------------------|-------------------------------|--------------------------------|-------------|
| Item W1 | E0-0000140 | △ | 40 | 38 | 90 | In Progress |
| Item W2 | E0-0000141 | ○ | 80 | 38 | 22 | In Progress |
| Item W3 | E0-0000142 | □ | | 100 | 90 | In Progress |
| Item W4 | E0-0000143 | △ | 25 | 50 | 100 | In Progress |
| Item W5 | E0-0000144 | ○ | 80 | 27 | 36 | In Progress |
| Item W6 | E0-0000145 | △ | 65 | 50 | 22 | In Progress |
| High-Tech Factory | E0-0000147 | △ | 40 | 38 | 80 | In Progress |
| Item W7 | E0-0000148 | □ | 15 | 84 | 70 | In Progress |
| Item W8 | E0-0000149 | △ | 65 | 50 | 39 | In Progress |
| Item W9 | E0-0000150 | ○ | 80 | 27 | 29 | In Progress |



Manage the project through a portfolio manager with a comprehensive overview including risks, probabilities, and status of all projects.

Process C2.1 Manage Construction Project

EC&O Model Company – Dashboard (Financials)



2

Description

- A holistic picture of all projects are delivered through a portfolio management dashboard
- Increased visibility of project status and financials

The screenshot displays the SAP NetWeaver Business Client interface for Portfolio Management. The main area shows a table of projects with the following columns: Name, ID, Status, Priority, Planned Cost, and Actual Cost. The table lists various projects, including 'High-Tech Factory', 'Project R101', 'Project R103', 'Project R104', 'Project R105', 'Project R107', 'Vacuum System', 'Project R112', 'Project R114', 'Project R115', 'Item W4', 'Item W1', 'Item W3', 'Item W7', 'Item W8', and 'Vacuum System'. The 'Planned Cost' and 'Actual Cost' columns show numerical values for each project. A sidebar on the left provides navigation options, and a right-hand pane shows a detailed view of a selected project, including its priority, planned cost, and actual cost.



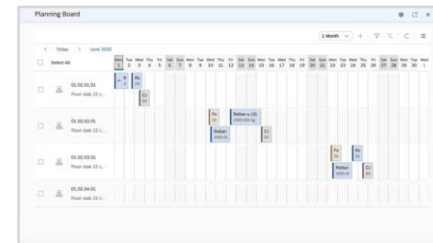
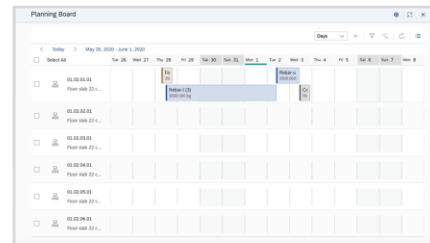
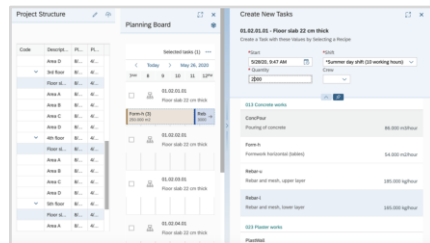
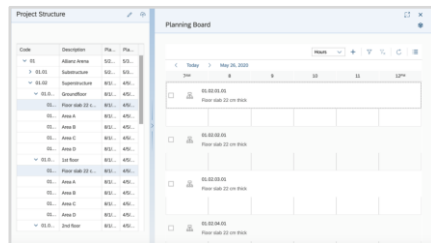
The portfolio manager also allows to monitor financials (e.g., planned versus actual costs) with intuitive dashboards.

2

Project Management and Execution of the EC&O Model Company - Selected screenshots & demo

The Planning Board – Precise Scheduling

Last Planner® System with Lean Recipes



Select Locations for Task planning



BIM structure equals Location structure



One Calendar row for each selected location

Pick Recipes to quickly create Tasks



Enter quantity and select a shift.



Change start and Location with a click.

Schedule with precision to the minute



Calculation of

- Working hours,
- Calendar hours



Based on productivity, shift, weekend and holiday definitions.

Quickly develop the Task plan



Distribute Tasks

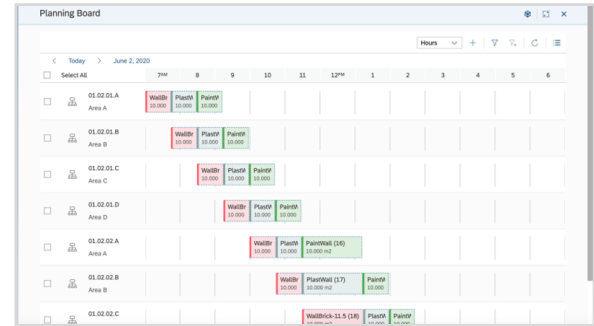
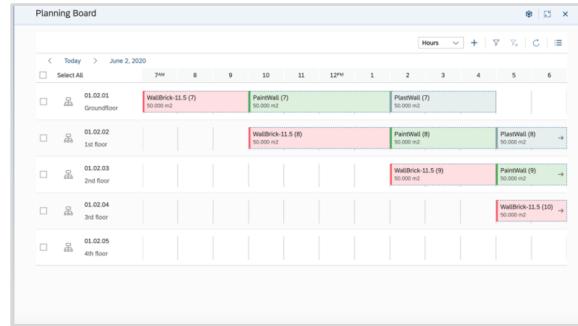
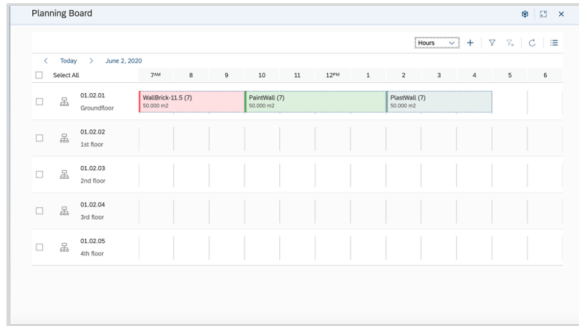
- By drag & drop,
- Copy & paste.



Develop Tasks in Push or Lean Pull mode.

Takt Planning

Reducing Takt, Reducing Duration.



Create a Train



Define **Trains** with Wagons (**Tasks**).



Adjust resources to equalise durations (Takt).

Generate sequences of Trains



Algorithm secures availability of Space and Workers.

$$(3 \text{ wagons} + 5 \text{ trains} - 1) * 3 \text{ hrs} = 21 \text{ hrs}$$

Reduce Takt and duration



Subdivide the project structure into smaller areas.



Start the following Tasks earlier.

Reduce the **Takt** and overall duration.

$$(3 \text{ wagons} + 20 \text{ trains} - 1) * 0.75 = 16.5 \text{ hrs}$$

Resource Planning – Skill Matching Workers

Site Cockpit Finds the Right Crews.

The **Recipe** defines the minimum required **Skills**.



Site Cockpit finds available and suitable **Crews**.



Project Structure

| Code | Description | PL... | PL... |
|--------|---------------|-------|--------|
| 01 | Allianz Ar... | 5/... | 5/3... |
| > 0... | Substruct... | 5/... | 5/3... |
| > 0... | Superstru... | 8/... | 4/5... |
| > 0 | Groundflo... | 8/... | 4/5... |
| | Floor slab... | 8/... | 4/5... |
| | Area A | 8/... | 4/5... |
| | Area B | 8/... | 4/5... |
| | Area C | 8/... | 4/5... |
| | Area D | 8/... | 4/5... |
| > 0 | 1st floor | 8/... | 4/5... |
| > 0 | 2nd floor | 8/... | 4/5... |
| > 0 | 3rd floor | 8/... | 4/5... |
| > 0 | 4th floor | 8/... | 4/5... |
| > 0 | 5th floor | 8/... | 4/5... |
| 0... | MEP | 5/... | 5/3... |
| 0... | Finish | 5/... | 4/1... |

Planning Board

Selected tasks (4) ***

< Today > June 2, 2020

7AM 8 9 10 11 12PM

01.02.01.A
Area A

01.02.01.B
Area B

01.02.01.C
Area C

01.02.01.D
Area D

Assign Work Force

Required Skills (2)

| Profession | Discipline | Experience |
|------------|------------|------------|
| Mason | 012 | B |
| Helper | | D |

Crews (5) Workers (2)

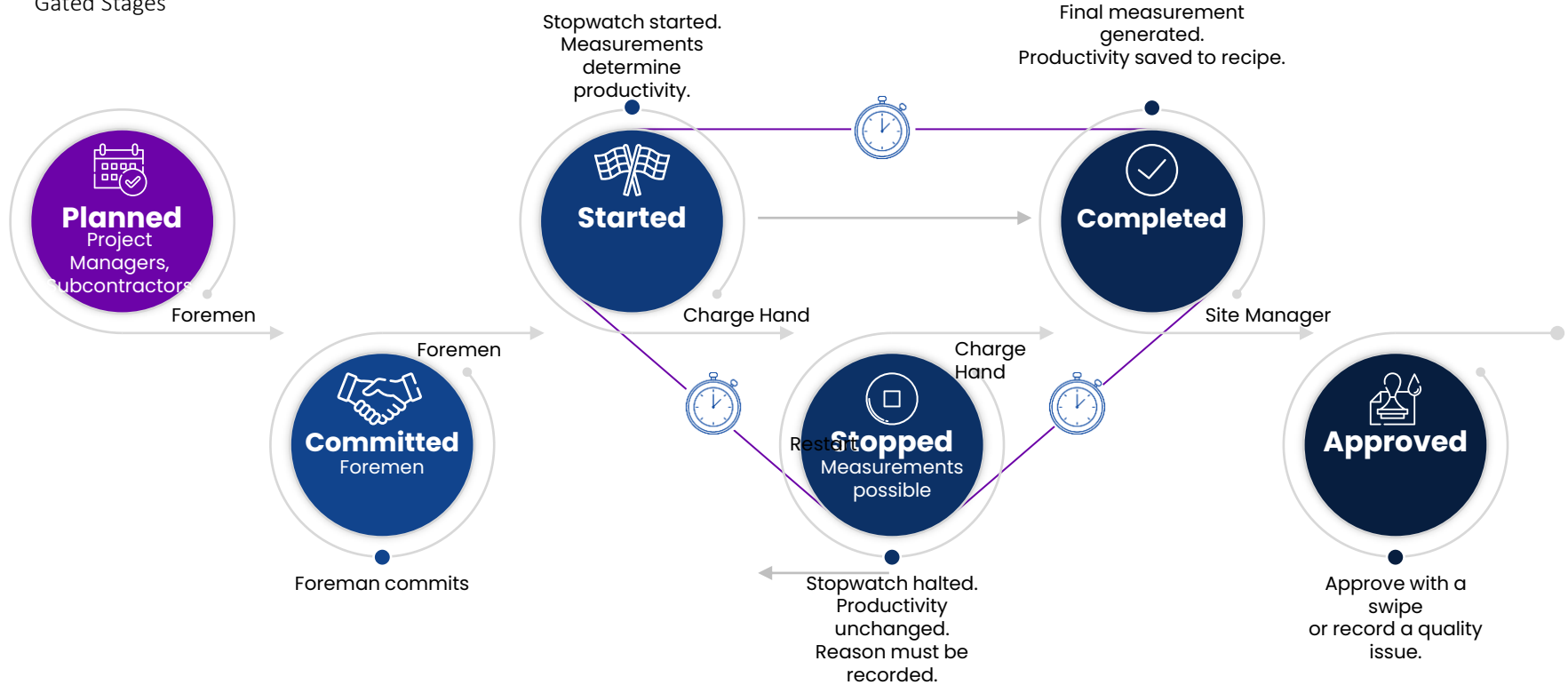
Only free crews ☒

From Jun 2, 2020, 7:00:00 AM Until Jun 2, 2020, 9:59:57 ...

| Crew Name | Head Count | Charge Hand |
|--------------|------------|------------------|
| Brick (1) | 2 | von Miller Oskar |
| Concrete (1) | 2 | Keys Alicia |
| Paint (1) | 1 | Fitzgerald Ella |
| Plaster (1) | 1 | Charles Ray |
| Rebar (1) | 2 | Zappa Frank |

Task Workflow

Gated Stages



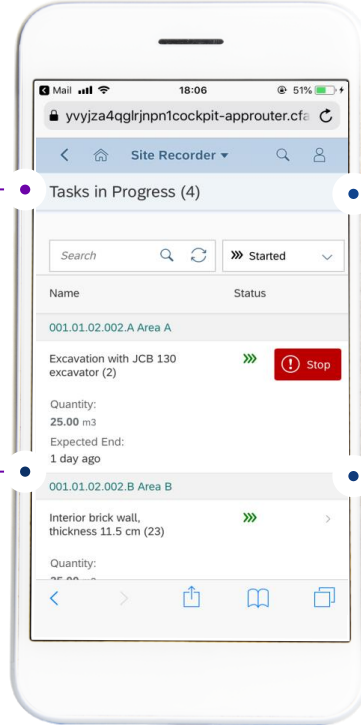
Site Recorder

A Simplified App for the Site.

Worklist with Tasks for foremen.



Access to all non-approved Tasks for managers.



Site Recorder generates measurements.



Site Recorder calculates

- Productivity,
- KPI,
- Saves actual dates,
- Forecasts completion.

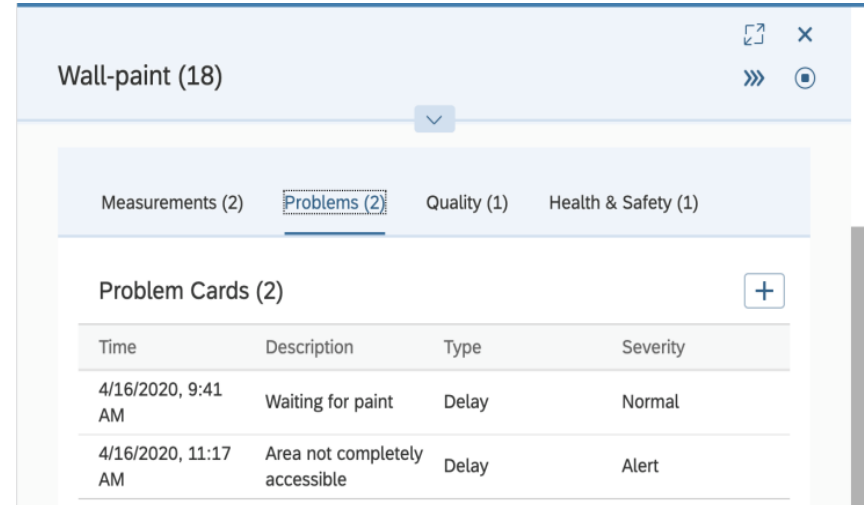
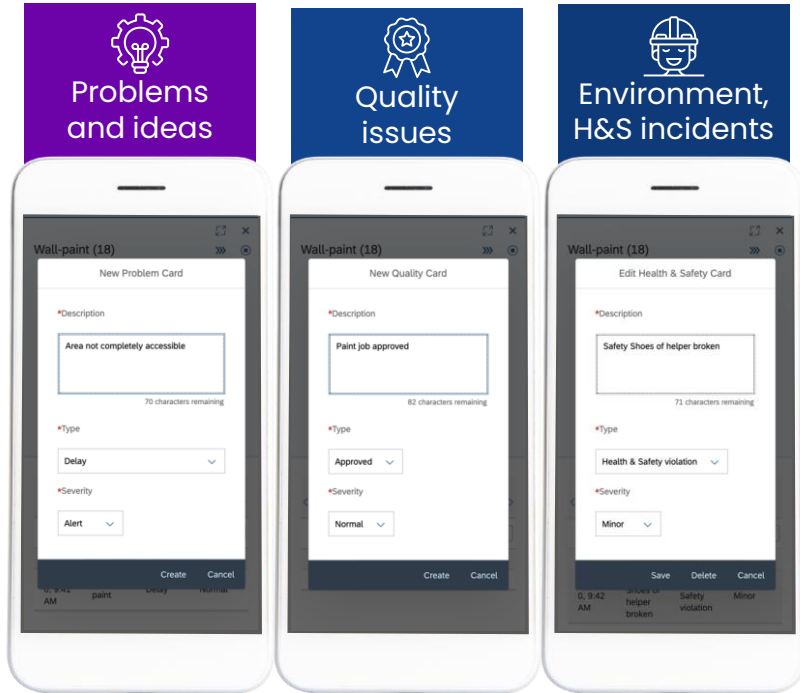


Change the Stage With a Swipe!

Site Recorder

Documenting Task Related Incidents.

On the fly, document



Controlling with Real Time Site Information

Remote Supervision of the Work on Site.



**Discover
late starts**



**Identify
delays &
resulting
conflicts.**



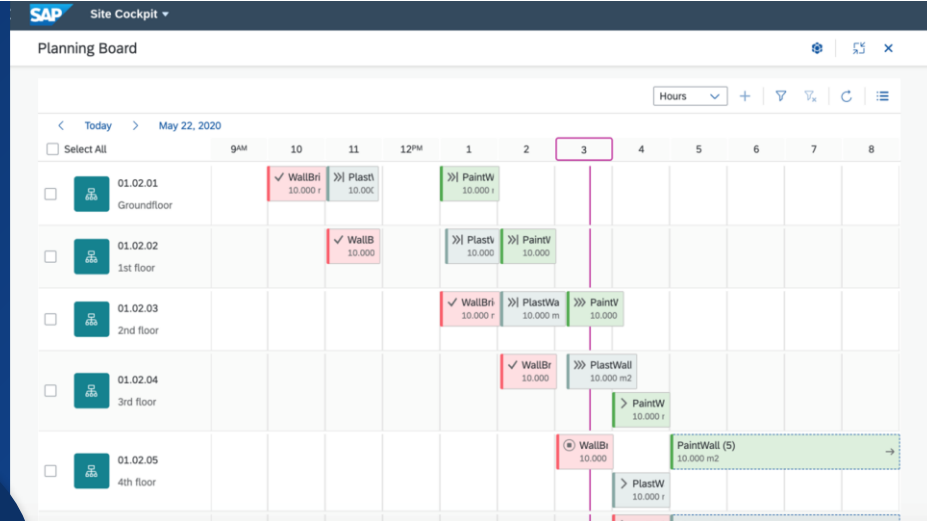
**Spot
stopped
Tasks.**



**Detect
non-
approved
Tasks.**

**Filter by: Stage of Task, Productivity range,
Disciplines, Foremen, Crews, Workers, Companies
or any combination.**

Take action!



Improved Management by Project Analytics

Key Indicators Overview



Problems



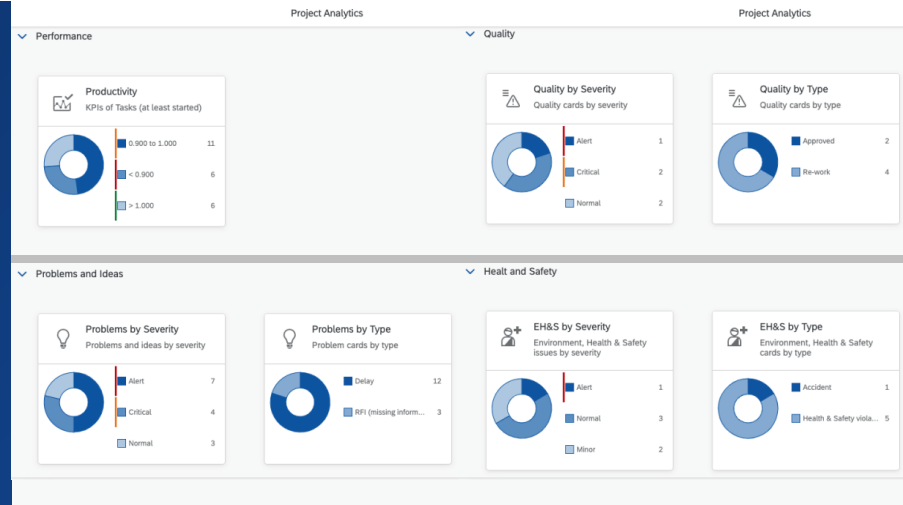
Quality issues



Environment, H&S incidents



Set your own criteria by definition of type, severity



Recipes Collect Actual Productivity

Recipe Editor



**Database of Productivity
From All Tasks in All Projects**

SAP Recipe Editor

Recipes (10)

012 Masonry works

Wall-int 11.5
Interior brick wall, thickness 11.5 cm 10.000 m2 per Hour

Wall-int 24.0
Interior brick wall, thickness 24.0 cm 9.000 m2 per Hour

013 Concrete Works

Reinf-slab-upper
Reinforcement of floor slab - up per layer 0.185 ton per Hour

Form-slab
Formwork for floor slab (tables) 35.500 m2 per Hour

Reinf-slab-lower
Reinforcement of floor slab - lower layer 0.165 ton per Hour

Form-slab
Formwork for floor slab (tables)

Discipline: 013 Concrete Works Productivity 35.500 m2 per Hour

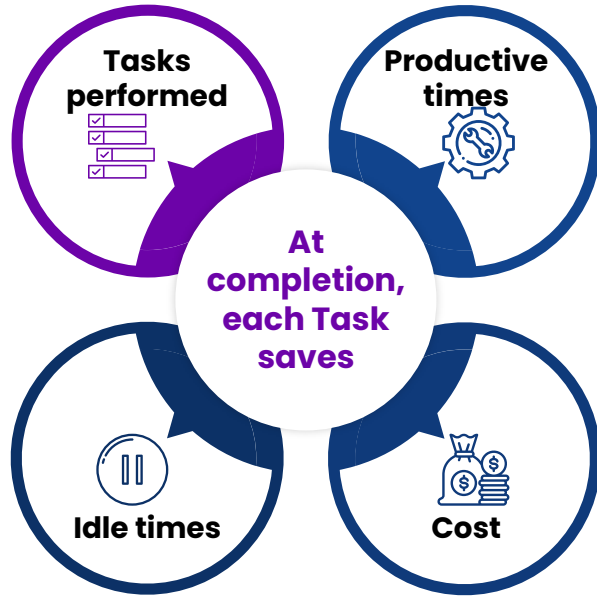
Labor (2) Material Equipment Results (6)

Results (6)

| Date | Project | Company | Quantity | Duration | Productivity | Crew Size |
|------------|-----------|-------------------|----------|----------|--------------|-----------|
| 4/5/2020 | DE.1.0001 | Porr AG | 10.000 | 00:13 | 46.083 | |
| 3/17/2020 | DE.1.0001 | Porr AG | 10.000 | 00:10 | 57.143 | |
| 11/26/2019 | DE.1.0001 | Porr AG | 5.000 | 21:24 | 0.234 | |
| 10/3/2019 | DE.1.0001 | Porr AG | 100.000 | 10:00 | 10.000 | |
| 10/3/2019 | DE.1.0001 | Porr AG | 90.000 | 04:13 | 21.297 | |
| 9/18/2019 | DE.1.0001 | Fluor Corporation | 350.000 | 11:21 | 30.837 | 3 |

Labour Timesheets Generated Automatically

Labour Timesheets



**Timesheets Generated
For Each Worker**

DE.H.0001.001 - Allianz Arena

Workers (13)

Search

Fluor Corporation

Dogg Snoop

Carpenter C

Jobs Steve

Helper C

Armstrong Bob

Concrete worker A

Charles Ray

Plaster worker B

Zappa Frank

Steel fixer B

Keys Alicia

Finisher C

Porr AG

Daily Timesheet

Frank Zappa

38 %

Productive

Profession: Steel fixer - Senior

Shift: Summer day shift (10 working hours)

Crew: Rebar (1)

Productive Time: 03:45

Shift Working Time: 10:00

Idle Time: 06:15

Timesheet Entries (3)

Shift Part

Begin

End

Hours

Rate

Cost

Rebar-I (8) - Rebar and mesh, lower layer / 01.02.01.01 - Floor slab 22 cm thick

Normal time

13:00

15:34

2.567

33.150 EUR

85.096 EUR

Rebar-u (8) - Rebar and mesh, upper layer / 01.02.01.01 - Floor slab 22 cm thick

Normal time

15:34

16:00

0.433

33.150 EUR

14.354 EUR

Overtime

16:00

16:45

0.750

38.122 EUR

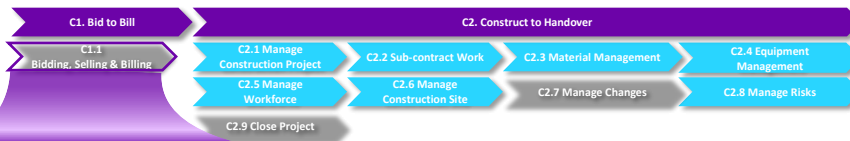
28.591 EUR

3

SAP S/4HANA Enterprise of the EC&O Model Company – Selected screenshots & demo

Process C2.3 Material Management

EC&O Model Company - Sales (SD tracking)



3

Description

- Sales Order Monitoring is transparent and more efficiently managed via SD tracking dashboards.
- Overdue activities are easily visible via list display.
- Direct access to all SD details possible to edit and initiate follow up activities.

Open Overdue Activities

| Sales Document | Status | Activity | Date | Amount | Currency |
|----------------|--------|------------------|------------|------------|----------|
| 1235 | Open | Invoicing | 20.05.2021 | 202,326.04 | EUR |
| 1234 | Open | Order Processing | 11.05.2021 | 294.96 | EUR |
| 1233 | Open | Order Processing | 08.05.2021 | 1,920.00 | EUR |
| 1232 | Open | Order Processing | 06.05.2021 | 294.96 | EUR |
| 1228 | Open | Order Processing | 04.05.2021 | 16,519.35 | EUR |
| 1227 | Open | Order Processing | 29.04.2021 | 294.96 | EUR |
| 1226 | Open | Order Processing | 29.04.2021 | 294.96 | EUR |
| 1225 | Open | Order Processing | 26.04.2021 | 9,800.00 | EUR |
| 1224 | Open | Order Processing | 26.04.2021 | 2,250.00 | EUR |

| Item | Product | Requested Quantity | Item Category | Requested Delivery Date | Overall Status | Repetition Status | Net Value | Configuration |
|------|--|--------------------|---------------|-------------------------|----------------|-------------------|-----------|---------------|
| 1 | Aluminium T. Support, 6 m, from (B2) (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 459.36 | EUR |
| 2 | Deposition & Intensive (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 5,985.15 | EUR |
| 3 | Equipment Item (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 3,070.00 | EUR |
| 4 | Deposition & Intensive (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 5,985.15 | EUR |
| 5 | Equipment Item (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 3,070.00 | EUR |
| 6 | Equipment Item (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 3,070.00 | EUR |
| 7 | Equipment Item (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 3,070.00 | EUR |
| 8 | Equipment Item (000000002) | 1.000 | Alt | 30.05.2021 | Open | Nothing Reported | 3,070.00 | EUR |



The Fiori app „Track Orders“ gives an immediate overview of the overdue sales orders.

Process C2.2 Subcontract Work

EC&O Model Company – Subcontracting Ordering and Valuation



3

Subcontracting PO Maintenance

Service Entry Sheet

Description

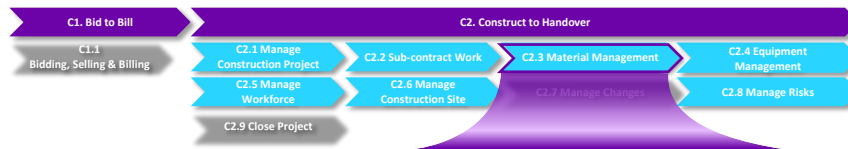
- Subcontracting process directly integrated into project WBS structure
- Services are monitored against supplier service notifications
- Payments are released after service entries were released and confirmed



Manage subcontractor orders and evaluate them by regarding quantities, prices, and other information.

Process C2.3 Material Management

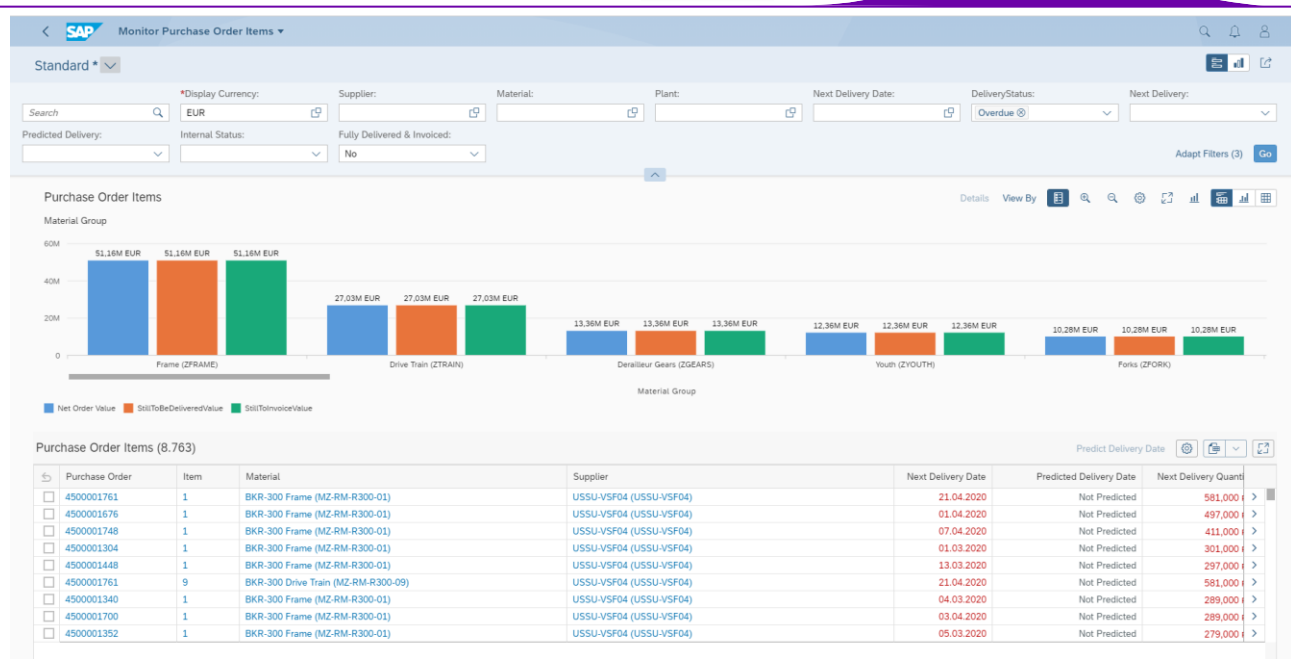
EC&O Model Company - Procurement (Outstanding PO's)



3

Description

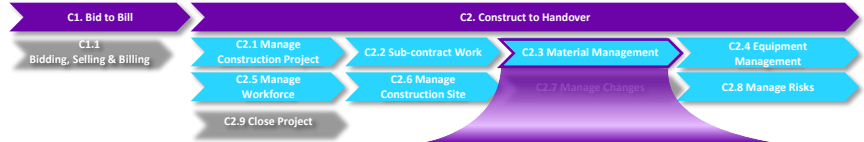
- Purchase order item tracking is analysed directly in SAP system.
- Obligo tracking gives direct indication of open items.
- Overdue delivery items can be easily identified.
- Customizable report can be adjusted for reporting analysis (e.g. material group).



The Fiori app „Monitor PO Items“ gives an immediate overview of the still to be delivered items and the overdue items

Process C2.3 Material Management

EC&O Model Company - Stock Overview



3

Description

- Integrated stock overview for visualising current stock situation.
- Multiple stock reports for analysis possibilities for dead stock, stock turnover rate, valuation, ...
- Cross plant and global reporting options.

Standard * ▾

Material Number: Plant: Storage Location: Base Unit: Reporting Date: Adapt Filters (1)

Line Items (2,638)

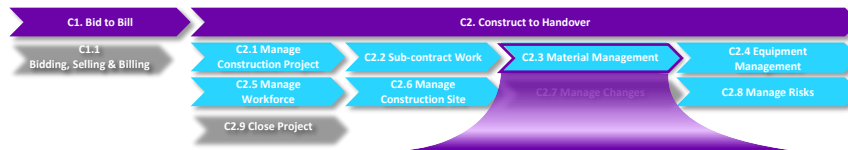
| Material Number | Material Description | Plant | Plant Name | Stor... | Description of Stor... | Sp... | Unrestricted Stock |
|-----------------|----------------------|-------|------------|---------|------------------------|-------|--------------------|
| SWN-CFG-SW-S1 | Software S1 | 1010 | Plant 1 DE | | | | 0,000 EA |
| SWN-CFG-SW-S1 | Software S1 | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 EA |
| SP006 | Spur gear IS651 | 1010 | Plant 1 DE | | | | 0,000 PC |
| SP006 | Spur gear IS651 | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 PC |
| SP005 | Mechanical Seal | 1010 | Plant 1 DE | | | | 0,000 PC |
| SP005 | Mechanical Seal | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 PC |
| SP004 | Gaskets Imm | 1010 | Plant 1 DE | | | | 0,000 PC |
| SP004 | Gaskets Imm | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 PC |
| SP003 | Shaft | 1010 | Plant 1 DE | | | | 0,000 PC |
| SP003 | Shaft | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 PC |
| SP002 | Coupling | 1010 | Plant 1 DE | | | | 0,000 PC |
| SP002 | Coupling | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 PC |
| SP001 | Bearing | 1010 | Plant 1 DE | | | | 0,000 PC |
| SP001 | Bearing | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 PC |
| SM0001 | Service Material 01 | 1010 | Plant 1 DE | | | | 0,000 H |
| SGPI010 | OUTPUT 10 | 1010 | Plant 1 DE | | | | 0,000 KG |
| SGPI010 | OUTPUT 10 | 1010 | Plant 1 DE | 101B | Std. storage 2 | | 0,000 KG |
| SGPI009 | OUTPUT 9 | 1010 | Plant 1 DE | | | | 0,000 KG |



The Fiori app „Stock – Multiple Items“ display the stock levels for entire plants or locations or for specific projects

Process C2.3 Material Management

EC&O Model Company – Deliveries Overview



3

Description

- **Delivery Monitoring for already created and in process deliveries.**
- **Monitor picking and packing as well as outbound shipment.**

SAP Manage Outbound Deliveries

Standard
Filtered By (1): Overall Status

| Outbound Delivery | Picking Date | Priority | Picking Status | Confirmation Status | GI Status | Pick |
|-------------------|--------------|-------------|--------------------------|---------------------|-----------------------|------|
| 80000106 | 13.11.2017 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000107 | 13.11.2017 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000108 | 13.11.2017 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000110 | 13.11.2017 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000111 | 13.11.2017 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000112 | 13.11.2017 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000323 | 14.03.2018 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000324 | 14.03.2018 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000325 | 14.03.2018 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000326 | 14.03.2018 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000327 | 14.03.2018 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000330 | 15.03.2018 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000331 | 15.03.2018 | Normal (02) | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |
| 80000407 | 21.10.2020 | | Completely Processed (C) | Not Relevant | Not Yet Processed (A) | Pick |
| 84000006 | 02.12.2020 | | Not Relevant | Not Relevant | Not Yet Processed (A) | Pick |



The Fiori app „My outbound delivery monitor“ provides the user with an overview and a status of all his outbound deliveries