EC&O Model Company

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

Webinar, 25 November 2021

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Content

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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OUTDATED PROJECT METHODOLOGIES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

SILO ORGANIZED PROJECT TEAMS FOSTER INFLEXIBILITY IN CRITICAL SITUATIONS.

DATA re-ENTERING AND INTERPRETATION

10101010
00100010
0011

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.
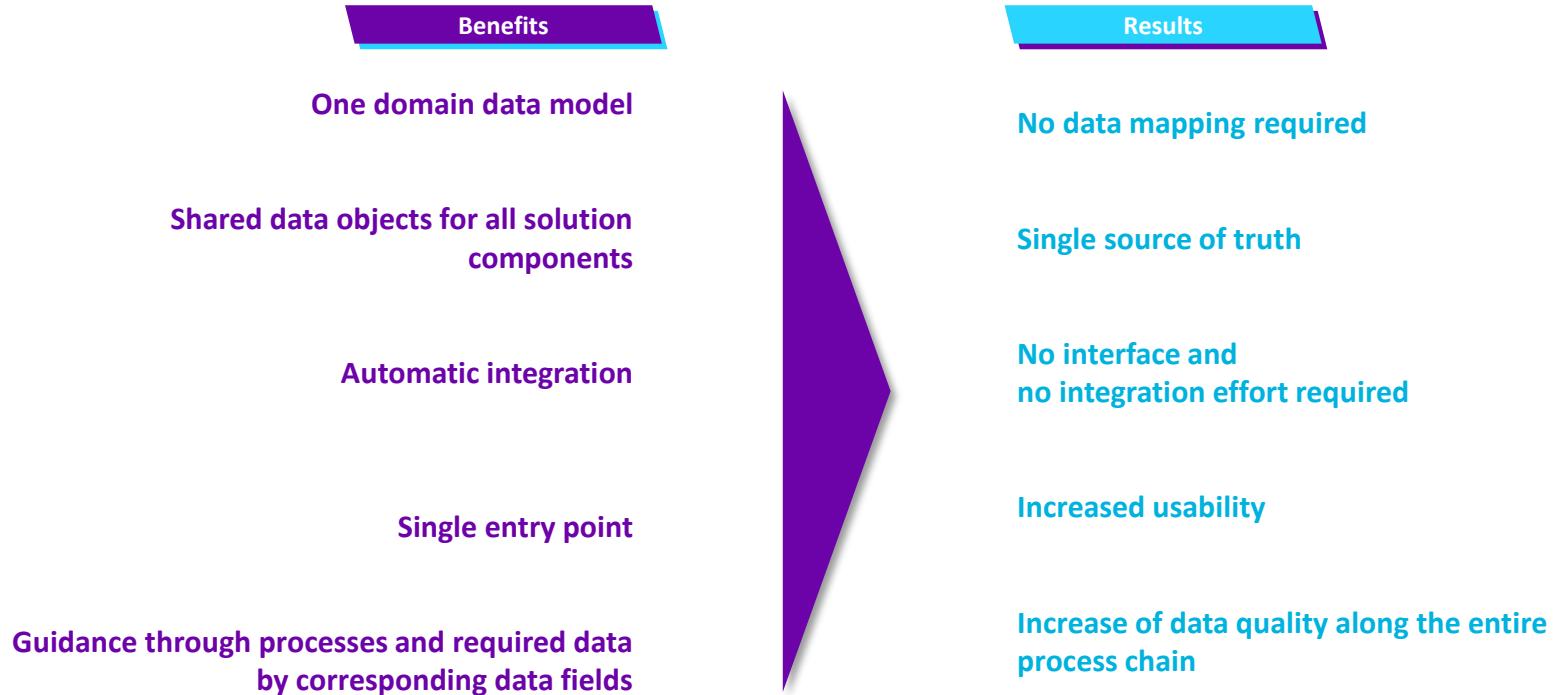
COMPETITION

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

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

S/4HANA business benefits

Benefits

One domain data model

Shared data objects for all solution components

Automatic integration

Single entry point

Guidance through processes and required data by corresponding data fields

Results

No data mapping required

Single source of truth

No interface and no integration effort required

Increased usability

Increase of data quality along the entire process chain

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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
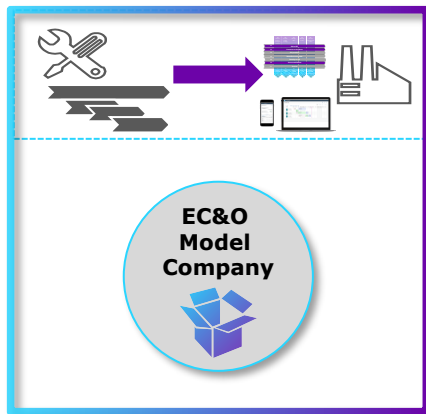
Increase efficiency along the entire building lifecycle

Building Information Mgmt. Consulting
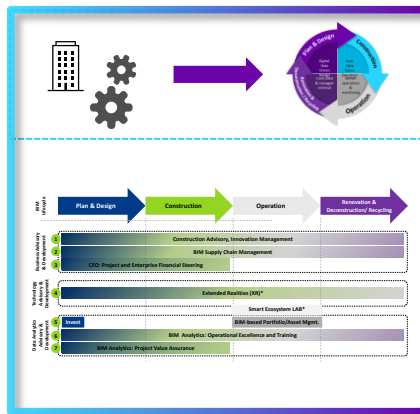
Ensure digital and holistic mgmt. equipment & tools

Equipment & Tools Management
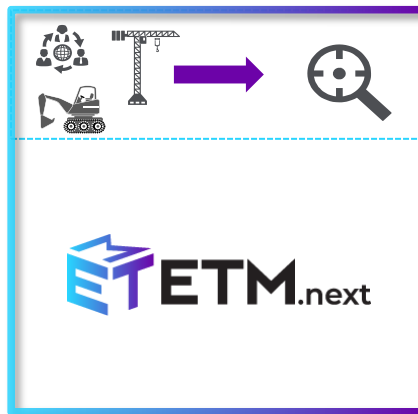
Enable best-in-class digitised project business

Digital Project Twin Framework

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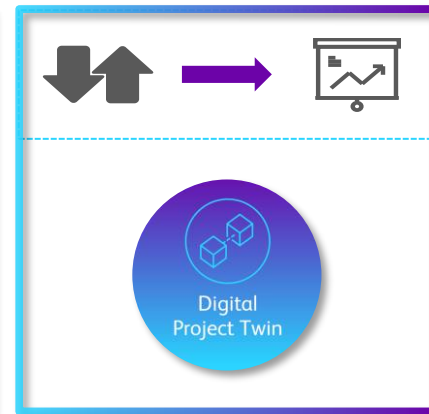
The EC&O Model Company is a further corner stone to support end-to-end process functionality by a standardised pre-packaged solution based on SAP S/4 Hana

Support of end-to-end functionality be intensive project portfolio management functionality
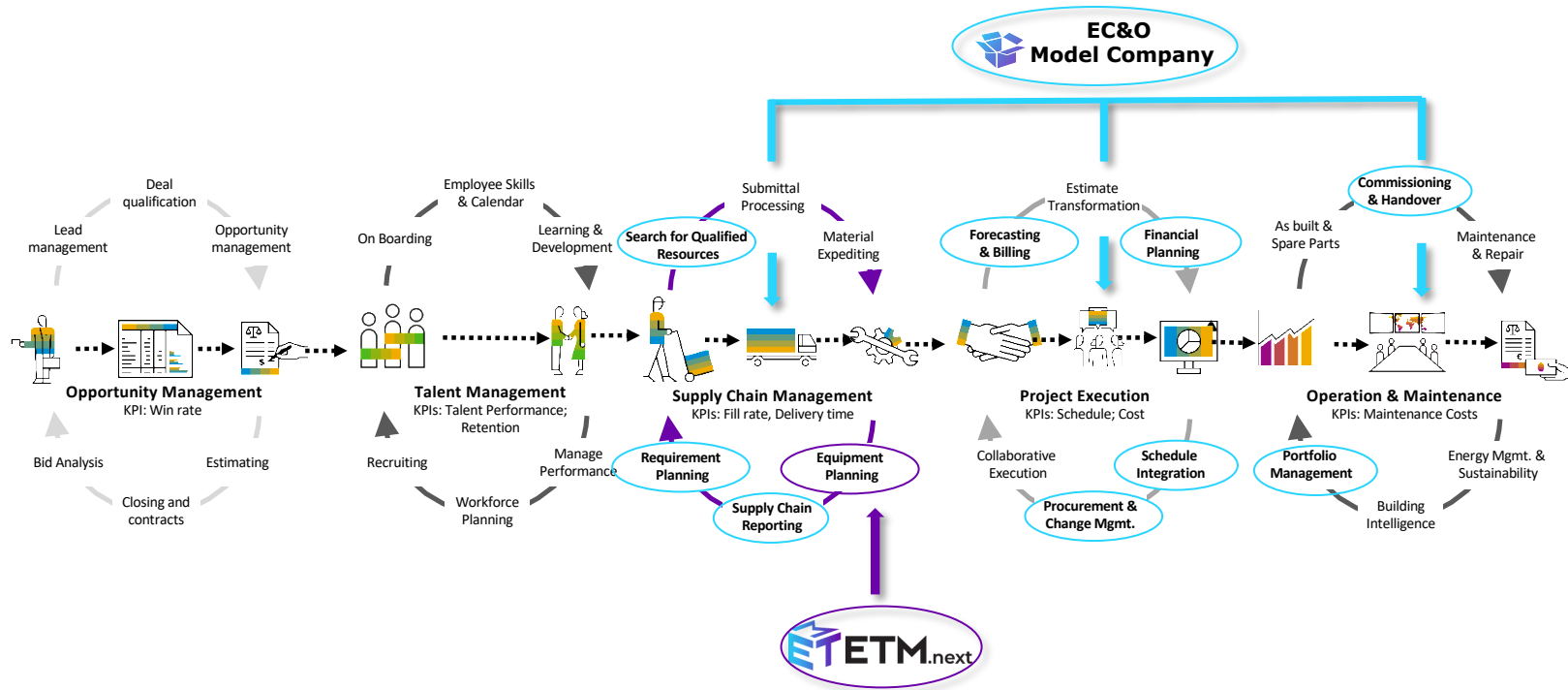
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A digital core based model company offers various benefits through the integration of functions and stakeholders

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

Stakeholders
Management

Project Controls
Cost & Schedule Performance

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EC&O Model Company
based on
Digital Core
SAP **S/4HANA**

Revenues
Sales Orders
Progress
Change Orders
Forecasts
Approvals
Budget
Documents
Schedule
Valuations
Cost
Resources
Purchase Order
Risk
Time Sheets
Problems & Ideas
Environment Health & Safety

Project Team
Supply Chain Management

Project Management
Resource Management

Immediate
- Single source of truth
- Instant access

Integrated
- Platform that "connects" all project participants (internally and externally)
- Integration of business functions

Interactive
- Real-time project analytics inc. Earned Value Management

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

EC&O Model Company functionality

EC&O Model Company

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.
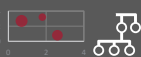
Portfolio Management

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

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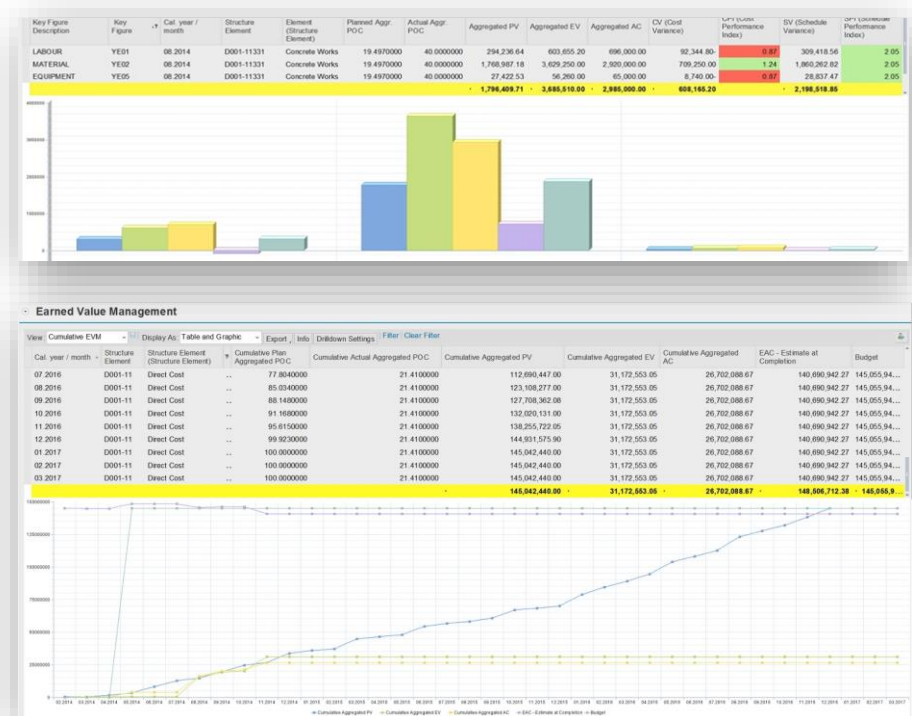
*CPI – Cost Performance Indicator, SPI – Schedule Performance Indicator, EAC – Estimate At Completion

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

Solution Overview

Portfolio Management

Portfolio Analytics

EC&O Model Company

S4/HANA Enterprise Project Portfolio Management

PLM/PDM

Scheduling

Initiate

Aggregate

Strategic Level

Tactical Level

Project Management and Execution

Real-time ERP integrated

ERP S/4HANA Enterprise

Sales	Material Management	Procurement	Manufacturing	Finance & Controlling	Service	Human Resources

Examples of Integrated Data

Billing by valuation

Comparison of ordered against delivered goods (Quantities and Price)

Projects Costs (Ad-hoc access)

Identification of capacity lacks (Based on assigned project effort)

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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

Management Processes
- M1 Develop strategy & business
- M2 Provide Digital Strategy
- M3 Manage Risks
- M4 Manage Quality
- M5 Provide Management System

Core Processes
- C1 Bid to Bill
- C2 Construct to Handover
- C3 Sell Products
- C4 Manufacture to Order
- C5 Develop to Sell
- C6 Source and Deliver
- C7 Service

Support Processes
- S1 Manage financials
- S2 Manage HR
- S3 Provide Legal & Compliance
- S4 Provide IT
- S5 Manage Property & Collaboration

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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 proccess 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
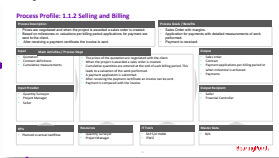
4.) Business Process Visiualisation
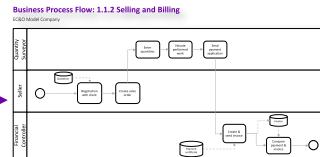
Generated benefits by the Business Process Toolbox of the Model Company

- ✓ **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 undertstanding**

- ✓ **Guidance in workshops** and expert discussion supported by practical examples

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

Solution Overview

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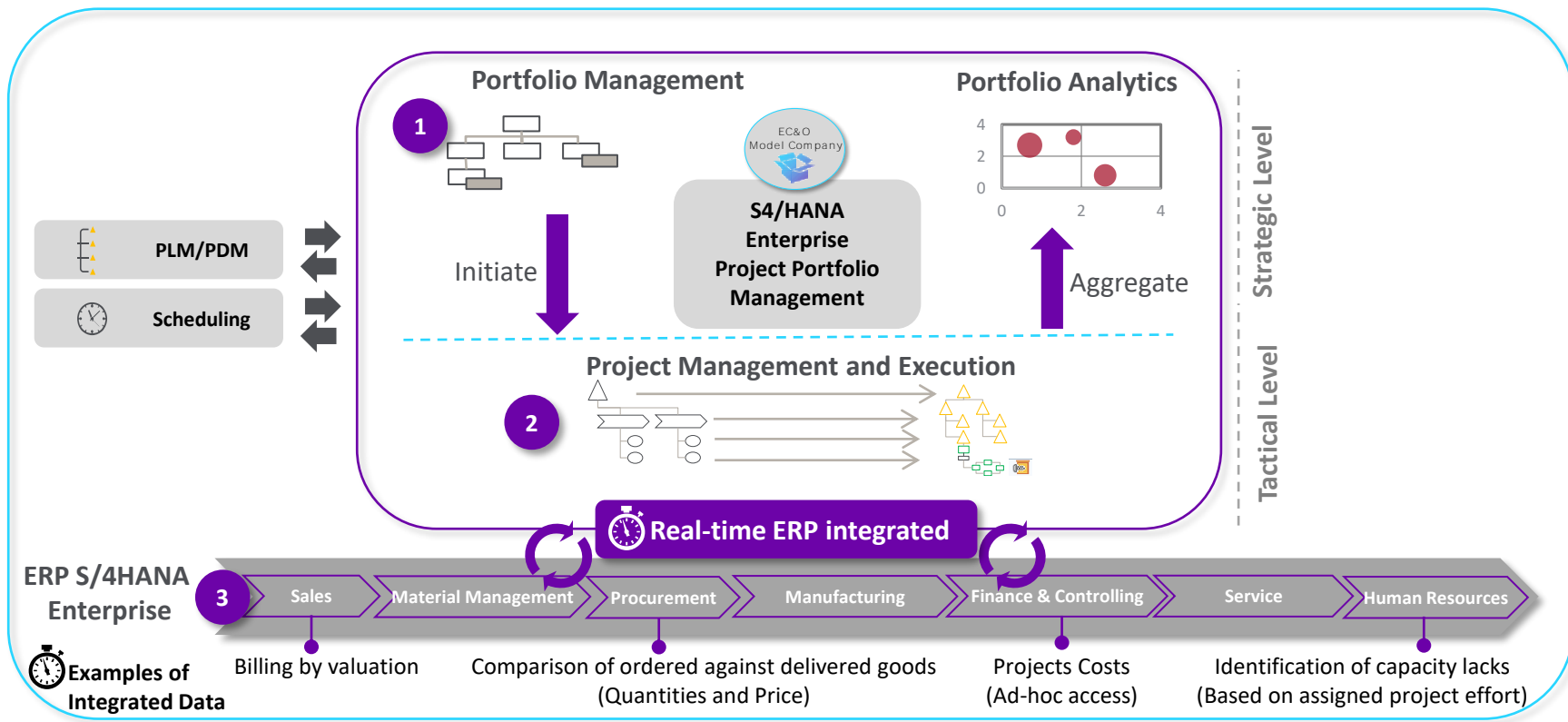
Portfolio Management: Selected features and benefits according to business challenges

S/4HANA business benefits – Portfolio Management
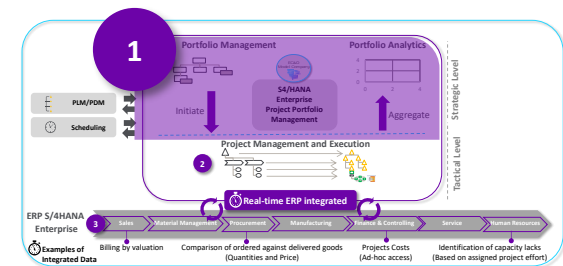
Challenges	Features	Benefits
Holistic view of the project portfolio	Pre-defined portfolio structure by e. g. subsidiaries and line of business	Separation of the organisation and corresponding financials
Overview of all project financials	Aggregation of project costs along the entire portfolio	Ad-hoc analysis of financials in the portfolio
Integration between the strategic and tactical view of the project	Execution of What-If analysis	Risk mitigation by simulation of unexpected events
Identification of impacts due to unexpected changes	Comparison of multiple projects based on key figures and project visualisation via Gantt chart	Fast-overview of all running projects in the organisation based on dashboards

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

S/4HANA business benefits – Project Management & Execution
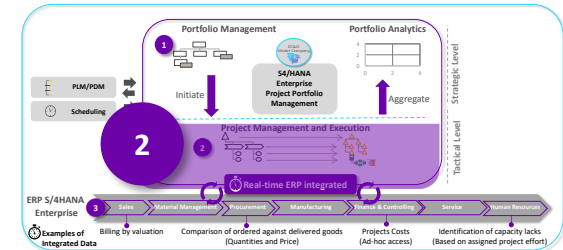
Challenges	Features	Benefits
Accurate and timely project performance reports	Earned Value Management analytics	Detection of deviations from the plan and root causes
Prediction if the project will be delivered on time, within budget	Forecasting of cost and time with budget comparison	Early action enabled to correct problems
Rework and communication issues on site	Planning board with tasks on locations and dates	Improved communication and collaboration, better flow of work
Clashes and over allocation of staff, workers and skill mismatch	Workforce management and clash detection	Automated verification of skill matches
Late and untrusted information from sites	Real time data from the site	Visualisation of actual site data enables corrective actions in advance

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

S/4HANA business benefits – S/4HANA Enterprise
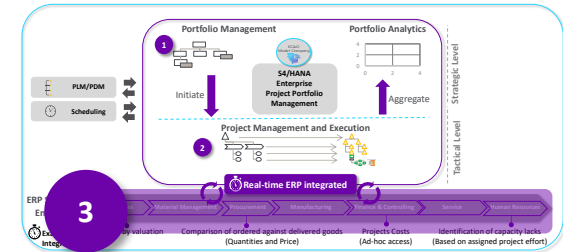
Challenges	Features	Benefits
Complex contract and payment conditions	Payment chains	Automated application of contract conditions in payment applications.
Comparison of planned costs with actual costs	Configured CO module	Actual costs generated at the time of consumption just as in the estimate
Payment applications based on cumulative values	Debit memos with cumulative values	Automated flow from valuation to payment application
	Timesheets with entries against WBS and time types	
Correct timesheets for payroll and controlling	Increase of data quality along the entire process chain	Automated feed of timesheet data into actual cost (ready for payroll feed)

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Content

➤

Today's challenges in EC&O

➤

The BearingPoint EC&O Assets and Model Company

➤

Demo

➤

Summary and Q&A

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DEMO

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Content

➤

Today's challenges in EC&O

➤

The BearingPoint EC&O Assets and Model Company

➤

Demo

➤

Summary and Q&A

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EC&O Model Company delivers industry specific transformation benefits

Overview of selected functions

Multi-project management

Sales order change orders

Predictive Accounting

EC&O Model Company

Mobile progress & time recording

Procurement analysis

Site supervision, performance & quality
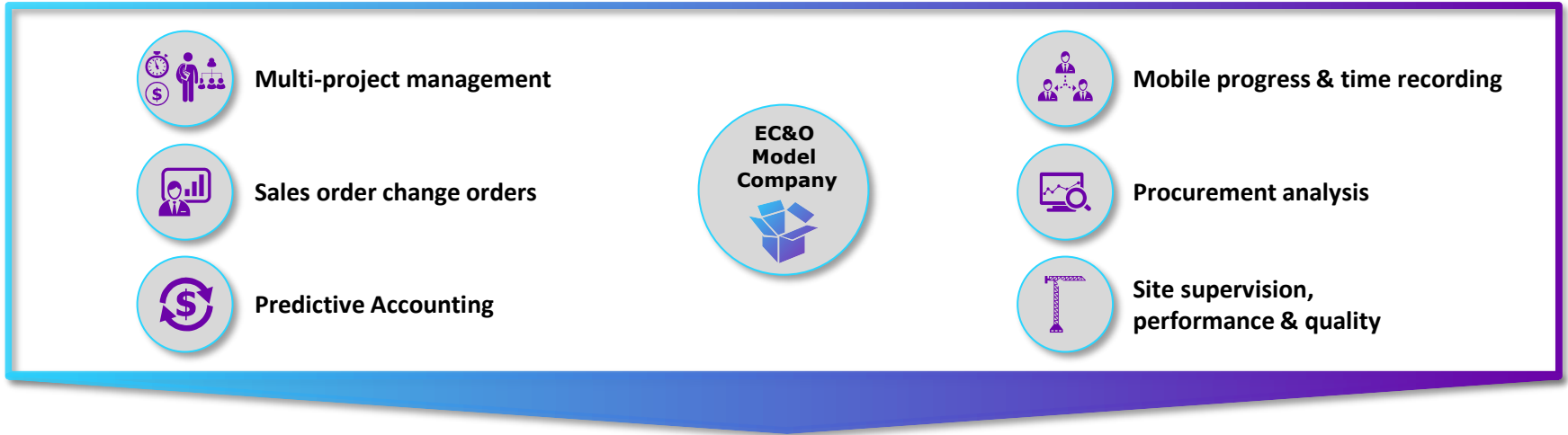
We understand your project business!

Accelerated template build by EC&O specific business content

Improved quality and minimized risk (pre-configured system)

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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.

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Q & A

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Thank you!

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APPENDIX

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1 **Portfolio Management**

of the EC&O Model Company - Screenshots & Demo

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Process C2.1 Manage Construction Project

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

1

Description
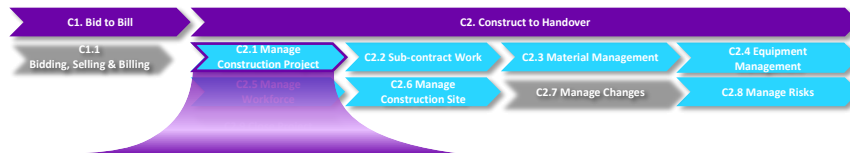
- **A clear cockpit allows high useability.**

- **Projects are numbered automatically in the system for a unique identification.**

Company structure already specified

Budget, schedule, staffing status at a glance

Project information about objects and attributes instead of project numbers

Automatic numbering of the project

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

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Process C2.1 Manage Construction Project

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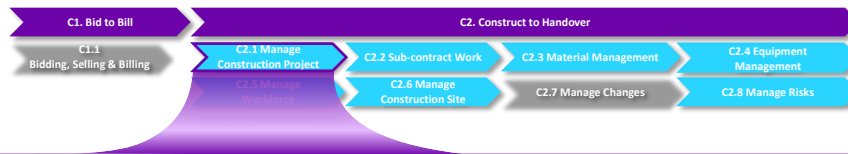
Description

- **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.**

Set key information and dates for decision points.

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Process C2.1 Manage Construction Project

EC&O Model Company - Risk Management & Risk Assessment
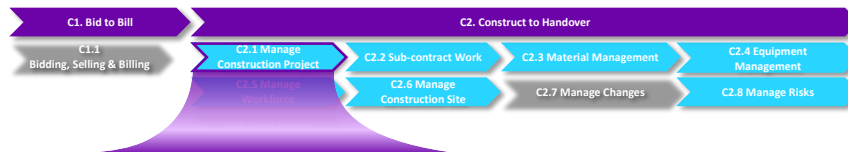
1

Description

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

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

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Process C2.1 Manage Construction Project

EC&O Model Company – Document Management
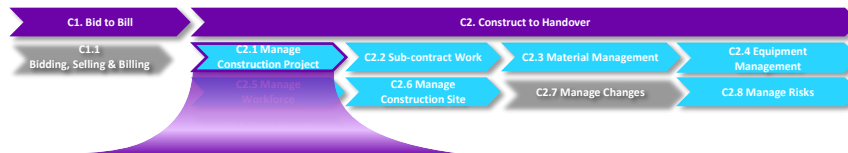
1

Description

- **All project related documents can be stored in the corresponding project.**

- **Document folder structures can be defined.**

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

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Process C2.1 Manage Construction Project

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

1
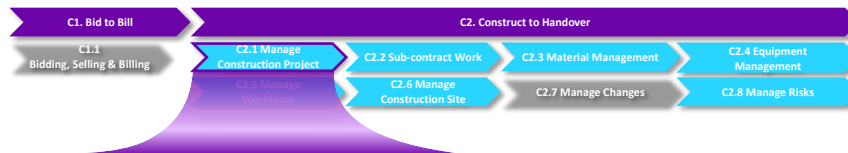
Description

- **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.**

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

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Process C2.1 Manage Construction Project

EC&O Model Company – Generation of the stage gate process
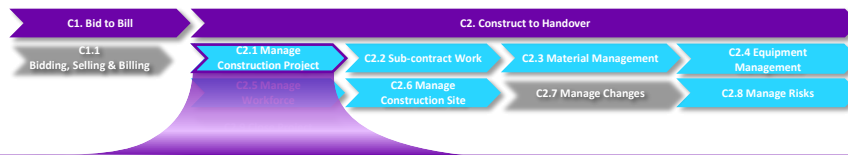
1

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.**

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

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Process C2.1 Manage Construction Project

EC&O Model Company - Manage Project Structure

1
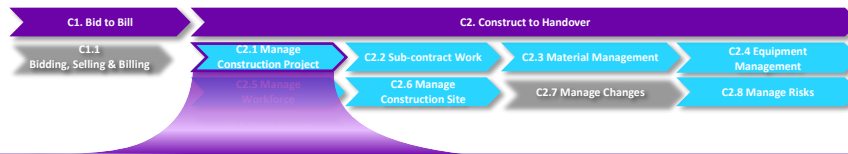
Description

- **Project phases and elements are tracked.**

- **Percentage of completion, confirmed and remaining work as well as constraints.**

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

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Process C2.1 Manage Construction Project

EC&O Model Company – Project Portfolio Management
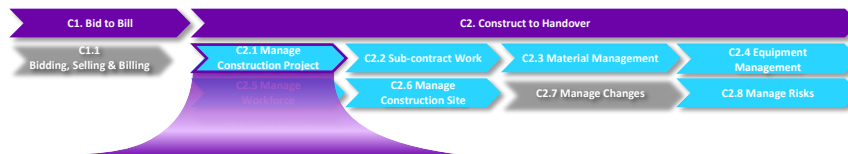
2

Description

- **Dashboard to steer projects based on risks.**

- **Risks KPIs integrated from defined questionnaires, KPIs and corresponding scoring model.**

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

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Process C2.1 Manage Construction Project

EC&O Model Company – Dashboard (Financials)
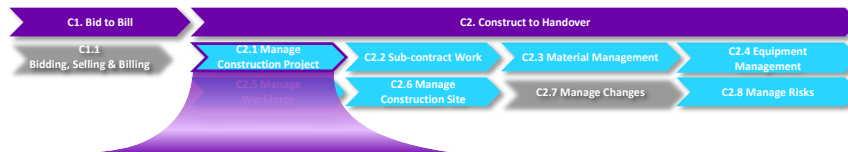
2

Description

- **A holistic picture of all projects are delivered through a portfolio management dashboard**

- **Increased visibility of project status and financials**

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

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2 **Project Management and Execution**

of the EC&O Model Company - **Selected screenshots & demo**

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The Planning Board – Precise Scheduling

Last Planner® System with Lean Recipes
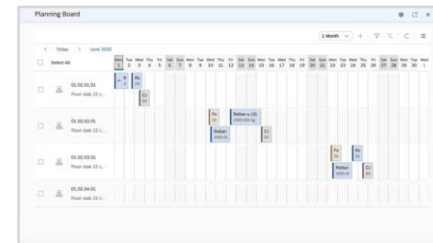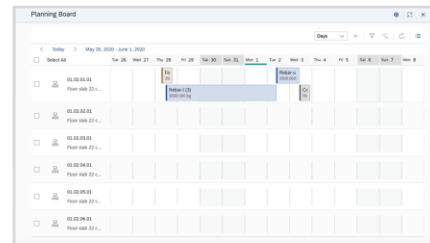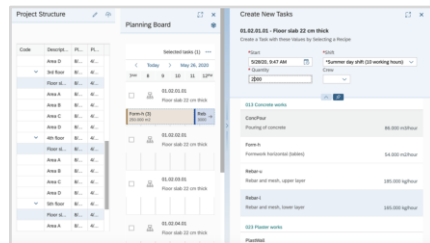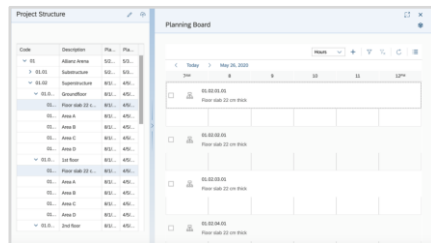
Select Locations for Task planning

- **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.

Last Planner® is a registered trademark of the LCI (Lean Construction Institute, USA).

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Takt Planning

Reducing Takt, Reducing Duration.
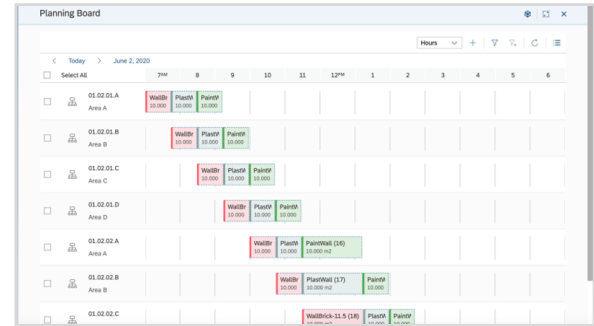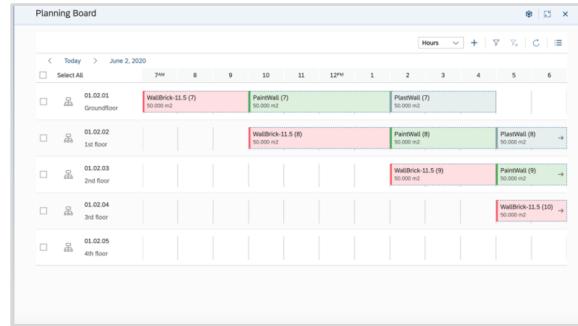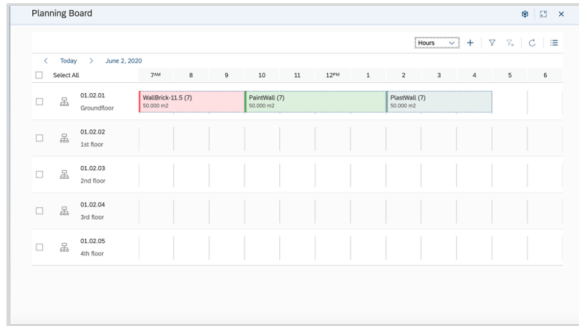
Create a Train

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

Adjust resources to equalise durations (Takt).

Generate sequences of Trains

Algorithm secures availability of Space and Workers.

(3 wagons + 5 trains – 1) * 3 hrs = 21 hrs

Reduce Takt and duration

Subdivide the project structure into smaller areas.

Start the following Tasks earlier.

Reduce the **Takt** and overall duration.

(3 wagons + 20 trains – 1) * 0.75 = 16.5 hrs

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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**.

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Task Workflow

Gated Stages

Stopwatch started.
Measurements determine productivity.

Final measurement generated.
Productivity saved to recipe.

Planned
Project Managers, Subcontractors

Committed
Foremen

Started

Stopped
Measurements possible

Completed

Approved

Foremen

Foremen

Charge Hand

Charge Hand

Site Manager

Restart

Foreman commits

Stopwatch halted. Productivity unchanged. Reason must be recorded.

Approve with a swipe or record a quality issue.

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Site Recorder
A Simplified App for the Site.

Worklist with Tasks for foremen.

Access to all non-approved Tasks for managers.
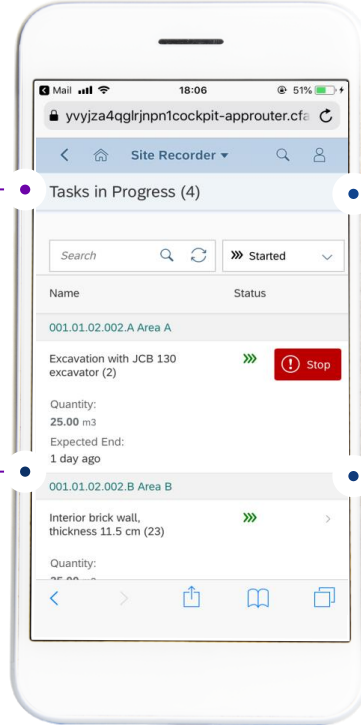
Site Recorder generates measurements.

Site Recorder calculates
- Productivity,
- KPI,
- Saves actual dates,
- Forecasts completion.

Change the Stage With a
Swipe!

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Site Recorder

Documenting Task Related Incidents.

On the fly, document

Problems and ideas

Quality issues

Environment, H&S incidents

Wall-paint (18)

| | Measurements (2) | Problems (2) | Quality (1) | Health & Safety (1) |

Problem Cards (2)

Time	Description	Type	Severity
4/16/2020, 9:41 AM	Waiting for paint	Delay	Normal
4/16/2020, 11:17 AM	Area not completely accessible	Delay	Alert

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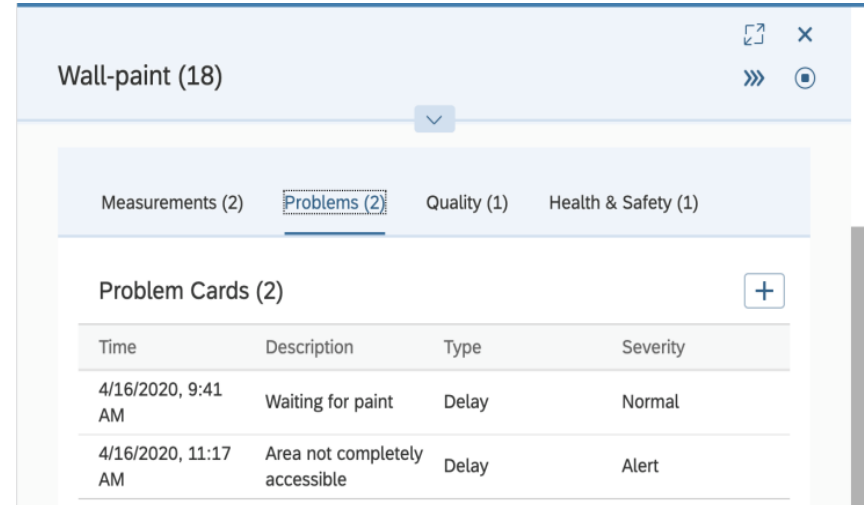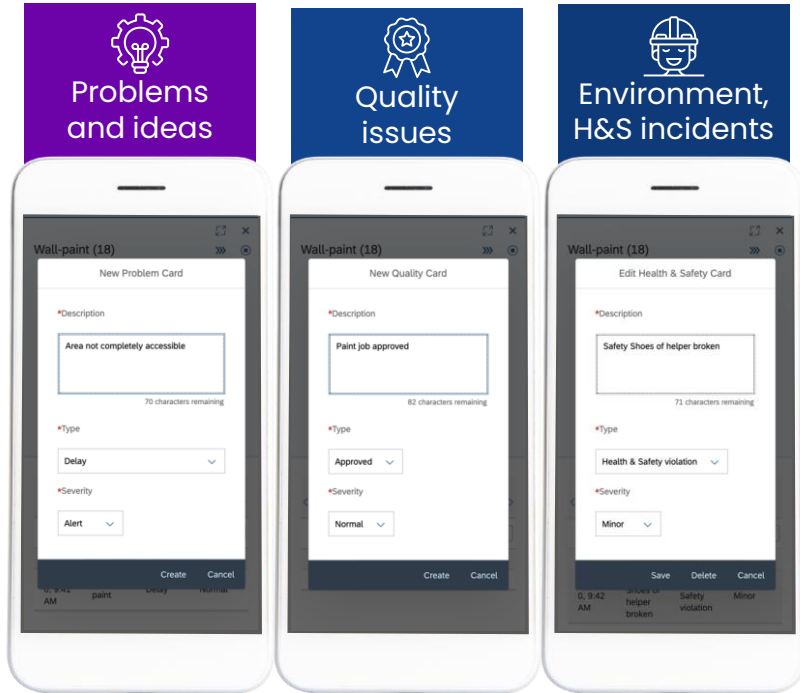
Controlling with Real Time Site Information

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!

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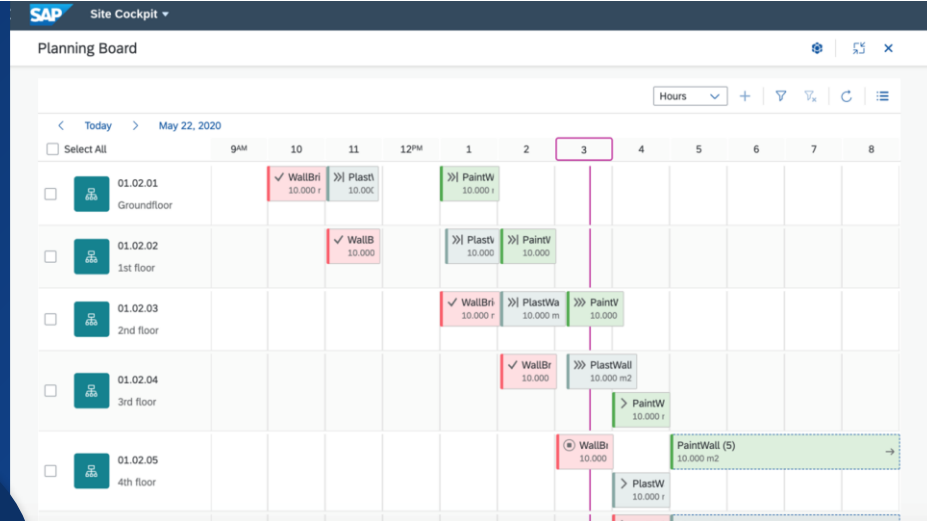
Improved Management by Project Analytics

Key Indicators Overview

Recipes Collect Actual Productivity

Recipe Editor

Database of Productivity
From All Tasks in All Projects

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Labour Timesheets Generated Automatically

Labour Timesheets
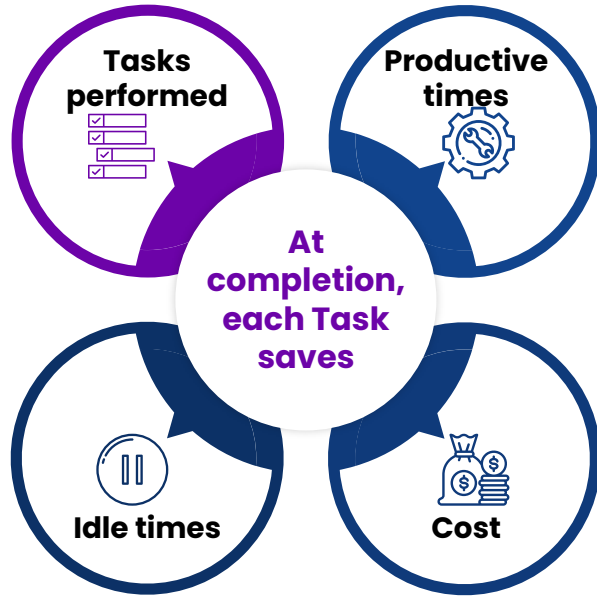
**Timesheets Generated
For Each Worker**

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3 **SAP S/4HANA Enterprise**

of the EC&O Model Company – Selected screenshots & demo

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Process C2.3 Material Management

EC&O Model Company - Sales (SD tracking)

C1. Bid to Bill

C2. Construct to Handover

C1.1 Bidding, Selling & Billing

C2.1 Manage Construction Project | C2.2 Sub-contract Work | C2.3 Material Management | C2.4 Equipment Management
C2.5 Manage Workforce | C2.6 Manage Construction Site | C2.7 Manage Changes | C2.8 Manage Risks
C2.9 Close Project
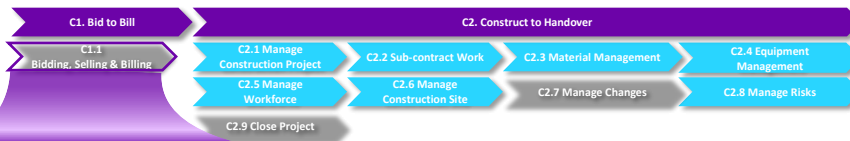
3

Description

- **Sales Order Monitoring is transparent and more efficiently managed via SD tracking dashboards.**

- **Overdue activitites are easily visible via list display.**

- **Direct access to all SD details possible to edit and initiate follow up activities.**

The Fiori apps „Track Orders" gives an immediate overview of the overdue sales orders.

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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**

Price is exchanged with quantity to enable partial payments

Subcontract order against WBS Element

Service Entry Sheet stores the valuation amount in the quantity (to be processed by payment chain)

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

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Process C2.3 Material Management

EC&O Model Company - Procurement (Outstanding PO's)
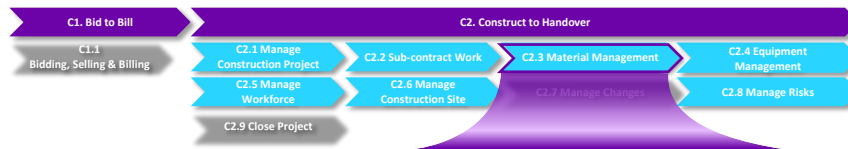
3

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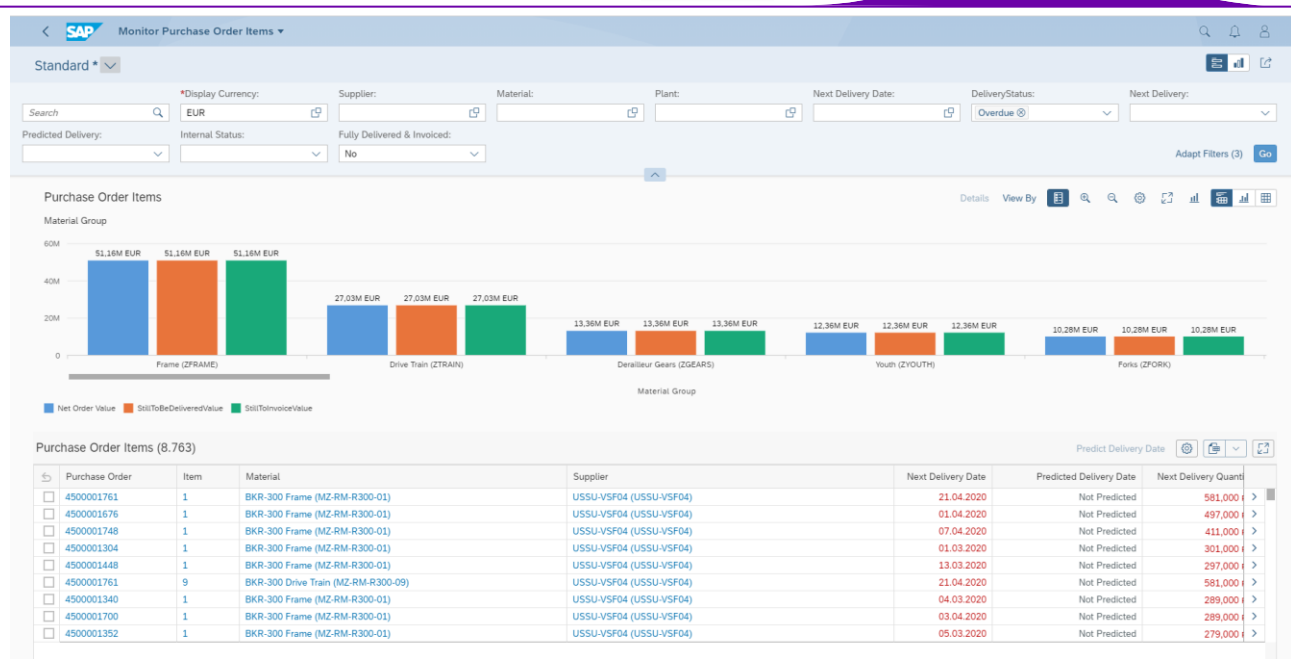
The Fiori app „Monitor PO Items" gives an immediate overview of the still to be delivered items and the overdue items

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Process C2.3 Material Management

EC&O Model Company - Stock Overview
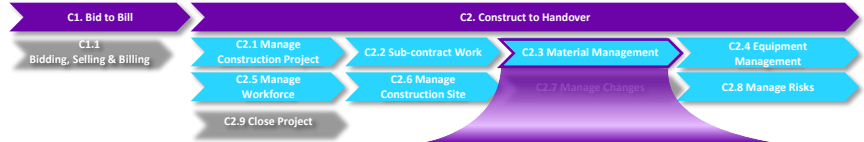
3

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.**

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
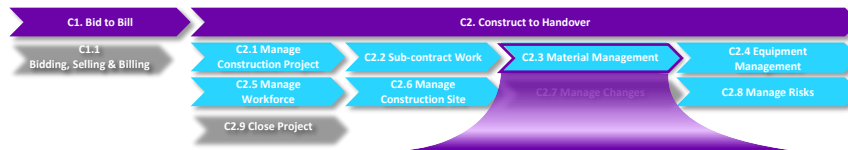
3

Description

- **Delivery Monitoring for already created and in process deliveries.**

- **Monitor picking and packing as well as outbound shipment.**

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

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