App based Value Stream Simulation in a Cloud Solution based on the Plant Simulation VSM Library

Short description of the workshop:
Value stream simulation is used to assist value stream analysis and design. The workshop provides a first introduction to the app-based Value Stream Simulation Solution "SimVSM" which also uses the Plant Simulation “Value Stream Mapping” library. The participants will get an insight into the developed cloud base service concept and the automatic model generation based on XML Structures. Modelling a value stream, performing various simulation runs and comparing the KPI results will complete the workshop.

Stephan Stauber, Robert Forstner
2019 Plant Simulation Worldwide User Conference
October 17th 2019 - Stuttgart, Germany
Content

THEORY
- Value Stream Mapping
- PLANT Simulation VSM library
- Concept of App-Based VSM Simulation

PRACTICE
- Overview
- Modelling
- Simulation
- Results

INFORMATION
THEORY
value stream - overview

Aggregated Value Stream Objects/Icons
(see Rother & Shook 1999)

Example for a value stream white board (actual state)
with optimizing potential towards target state (t KAIZEN)

VSM-
Analysis
• Visualization and Analysis of Actual State

VSM-
Design
• Design of Target State for optimization of value stream

VSM-
Planning
• Planning and Implementation of action plan

Value Stream Simulation
Mapping of Value Streams with Simulation library objects directly in PLANT Simulation

www.SimPlan.de

THEORY
Value Stream Mapping - PLANT Simulation Library

- Value Stream Modelling Objects
  - Modelling of Process-, Transport- and Storage-Steps
  - Modelling of Material-Flow and Information-Flow (or Kanban-Card-Flow)

- Value Stream Tool Objects
  - Analysis of static value stream KPIs
    - Timeline, FlowGrade, EPEI, ...
  - Analysis of dynamic value stream KPIs
    - Utilization of Processes and Stock-Level, Stock-Plotter, ...

www.SimPlan.de
**THEORY**
value stream – App concept

**FRONTEND**

- iOS
- Windows
- Android

**SimController**

- Web Services
- Authentication
- Project-Administration
- Simulation Controlling

**BACKEND**

- PLANT Simulation
- Siemens/SimPlan
- Value Stream Library

**PROJECT/USER DB**

**FRONTEND**

**BACKEND**

**Online**

**www.SimPlan.de**

---

**Practice**

Live Demonstration
PRACTICE
SimVSM - selected functions

- Measuring points
- Time measurement
- Customizing
- Documentation
- Configuration

PRACTICE
SimVSM – „dynamic“ elements

- Simulation parameters
- Availability
- Simulation start date
- Simulation end date
- Simulation duration (days)
- Shift models

Siemens Digital Industries Software
2019 Tecnomatix Plant Simulation Worldwide User Conference
**PRACTICE**

SimVSM – simulation workflow

- Administration within **modelling area of one project** for different value stream **alternatives**
- **System guided modelling and parametrization**
- **Plausibility checks**

- Controlling of simulation jobs
- **Asynchronous, parallel execution of simulation jobs**
- Visualization of progress
- Detail information to simulation jobs
- Access to simulation data (incl. Plant Simulation Model)

- Automatic **start and interconnection** with model
- **Automatic model generation**
- **Plausibility checks and error handling**
- Generic preparation of result data
- **Forwarding** of results to the frontend

---

**PRACTICE**

SimVSM – results

### static

### dynamic

- Simulation Overview
- Process Utilization
- Financial Statements
- Customer Order Statistics
- Customer Product Statistics
  - Stock Statistics
  - Cost Statistics
  - OEE Statistics
- Dynamic Trends
  - Measurements
INFORMATION

www.simvsm.de

Web page
www.simvsm.de

E-Mail
simvsm@simplan.de

Online Help
http://www.simvsm.info/de/
http://www.simvsm.info/en/

YouTube Channel
https://www.youtube.com/user/SimPlanAG

App Stores
(free download)

Apple
Microsoft
Android

SimVSM Pro
(with simulation)
on demand, time-restricted test versions possible

Siemens Digital Industries Software
2019 Tecnomatix Plant Simulation Worldwide User Conference
Thank you very much for your attention!

Stephan Staubner, Robert Forstner
Niederlassungsleiter, Consultant

SimPlan AG
Hanau, Braunschweig, Bremen, Dresden, Holzgerlingen, München, Regensburg
BruderwöhrdStr. 15b
93055 Regensburg

Telefon +49 941 646620-50
Fax +49 941 646620-49
E-Mail Stephan.Stauber@SimPlan.de
      Robert.Forstner@SimPlan.de
Web  www.SimPlan.de