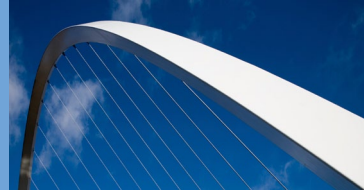


# SimPlan Newsletter



October 2015

## News from the world of simulation

### SimPlan News

- SimPlan introduces new product development: SimAssist
- Quality management of SimPlan AG certified to ISO 9001
- New SimPlan location in Dresden - IKA Dresden now part of the SimPlan group

### Simulation in Practice

- Simulation of a Distribution Centre for Klingspor
- Optimising the Utilisation of a Therapy Centre with AnyLogic

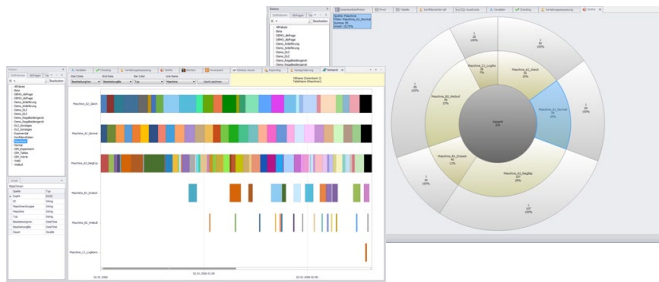
### Simulation Tools

- New Version: AnyLogic 7.2

## SimPlan News

### SimPlan introduces new product development: SimAssist

On 1st of July 2015, simulation specialist SimPlan introduced its latest software product: SimAssist, a tool that offers professional support for simulation users.



Apart from providing simulation services and distributing simulation software, SimPlan has been developing its own products for many years, like object libraries for Plant Simulation by Siemens PLM Software or complementary tools. Now SimPlan's subsidiary in Regensburg presents the latest product, SimAssist.

The basis for SimAssist was developed in the research projects AssistSim and EDASim, the first of which was awarded 2nd place at the 2011 Hessian Cooperation Awards. The system facilitates the professional processing of simulation results, which up to now no commonly known software on the market could do. Not only can simulation data be managed with SimAssist, the user can also analyse the data in various ways, optimize it and transfer it into a project documentation. This leads to a major workload reduction for all simulation users and significantly fosters the return on investment.

SimAssist has a modular structure. Building on a basic module (4base), the different modules can be chosen freely and adapted to the users' individual requirements. It is also possible for users to get a developers license and develop their individual plug-ins, which again emphasizes the modular and flexible character of SimAssist. This way, users can create a software that is targeted to their own needs and are actively involved in creating their personal software for simulation users.

The already existing tool SimView, frequently used for example in the automotive industry, will be integrated in SimAssist as an independent plug-in in the 2view module.

"With SimAssist, we have created a tool which gives us and all simulation users valuable support in the execution of simulation projects. With quick analyses and consistent transparency within a project, the increase in efficiency is measurable" says Stephan Stauber, branch manager of the SimPlan subsidiary Regensburg.

If you are interested in taking a closer look at SimAssist, you can get a test license at:

➔ [www.simassist.de](http://www.simassist.de).

## Quality management of SimPlan AG certified to ISO 9001



On 1st July 2015, SimPlan's quality management system was certified to the international norm ISO 9001. SimPlan is the first German service provider in the field of material flow simulation

to receive this certificate. With it, SimPlan proves that its quality criteria, which have been upheld and lived within the company for years, among them especially high customer satisfaction, innovativeness and process-oriented, transparent processes in all project phases, are integral parts of our day-to-day work and follow the quality standards of the ISO 9001.

Wolfgang Artschwager, branch manager and head of QM at SimPlan: "With the certification to ISO 9001 we document externally what internally has been a matter of course for us for a long time. Quality and continuous improvement of our processes are essential elements in the project management of our company. Only with these standards and the high demands we place on our work, we can provide added value for our customers."

The certification audits examine especially the implementation of the quality policy, the documentation of procedures and processes as well as the measures taken to ensure a continuous improvement process. DQS, who performed the audit, considered the high degree of process standardization in project realization and the high customer and quality orientation of all employees especially positive.

"With the customer- and process-oriented procedures specified in our quality management system, we ensure transparent and comprehensive standards, which is an especially crucial quality factor in companies with a decentralized organizational structure" added Mr. Artschwager.

The norm ISO 9001 has become a worldwide standard for quality management, The initial certification remains valid for three years.

## New SimPlan location in Dresden - IKA Dresden now part of the SimPlan group

The IKA (Institut für Konstruktionstechnik und Anlagengestaltung - institute for construction technology and plant design) Dresden will become a SimPlan branch office starting on 1st October 2015.

The IKA Dresden was founded in 1992 as a private research institute, focusing on the analysis, simulation and optimisation of facilities and processes in packaging and processing technology. Furthermore, IKA Dresden developed the process simulation tool PacSi, the only specialized system for the packaging industry.

The SimPlan group with its' headquarter in Maintal (Germany) and subsidiaries in Germany, Austria and China, is a cross-sector full-range provider of material flow simulation services in production and logistics. As of now, IKA Dresden will help represent SimPlan's service spectrum in central Germany. This will complement the IKA's continuing service portfolio for machine manufacturers and their customers in the food, beverages, pharma and cosmetics industry. Simultaneously, the IKA, as a competence centre for the packaging industry, will reinforce SimPlans expertise in this area.

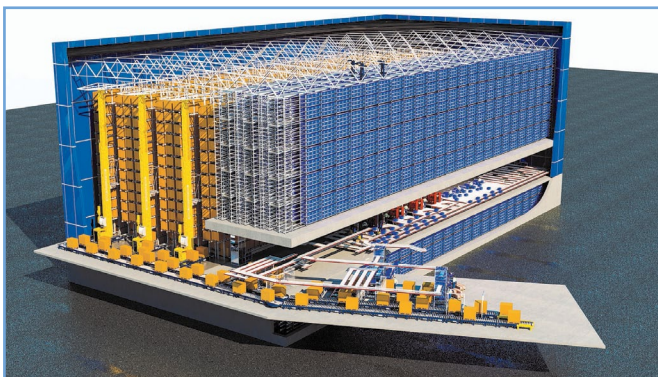


*Pictured: SimPlan management board members Dr. Sven Spieckermann (left) and Dr. Harry Kestenbaum (right) with the founder of the IKA Dresden, Prof. Dr.-Ing. habil. Joachim Hennig (centre).*

## Simulation of a Distribution Centre for Klingspor AG

Klingspor AG's success is based on a portfolio of more than 50.000 products, ranging from high quantities of fast movers to customer-specific individual articles for industrial grinding applications. The company puts special emphasis on the safety of its products, which it produces to internationally consistent quality standards. The central focus is on smooth processes, in order to guarantee availability and short delivery times.

Therefore, in 2014 Klingspor commissioned SSI Schäfer with planning and building a new distribution centre located at the Klingspor headquarter in Haiger (Hessen, Germany). To safeguard against design and engineering risks, a simulation study for the project was carried out by SimPlan AG.



Picture: SSI Schäfer

The distribution centre by SSI Schäfer consists of a high-bay warehouse for pallets with approx. 13.000 storage locations, as well as a shuttle warehouse with approx. 36.000 storage locations. Connecting these two warehouses is an intermediate picking and packing zone. The facility is connected via conveyor technology including plc-control to the picking area as well as the receiving and shipping area. On the other side of the building, Navette-vehicles and Navette-lifters operate the shuttle warehouse. It is also connected with multi order stations and parking lots via conveyor systems. Warehouse management will use SAP EMW (Extended Warehouse Management) and will also be implemented by SSI Schäfer.

In this project, simulation was used to cover design and engineering risks: the concept was simulated to study its performance in various scenarios and at the same time analyse and optimize processes and parameters.

To achieve this, the simulation model not only contains a detailed depiction of the entire storage and conveying technology, it also includes a dynamic, rule-based disposition with numerous customized processes, inventory and warehouse management for both warehouse parts, control algorithms for the Navette-shuttles, sequencing as well as modeling of processes at the workstations, replenishment processes and empty container loops.

During the three months in which the project was realized by SimPlan, the following points have emerged as the biggest challenges:

- the set of rules for the dynamic disposition ("what order will be picked when and where under which circumstances?) due to the highly flexible nature of the facility: material numbers can be provided in both warehouse parts and can also be picked in various parts.
- The navigation of the different material flows in the container area, allowing for restrictions like shuttle controls and sequencing.

In workshops with all project partners, the extensive integrated statistics were evaluated and thereby possible problems could be spotted and solutions found, so that the previously defined key-figures could be realized after only very few optimization iterations.

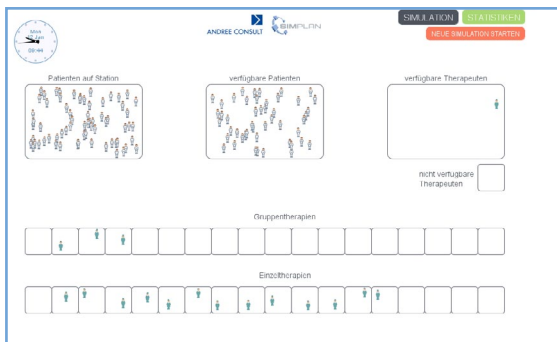
In this process it has yet again become apparent that a suitably designed animation is very useful for the joint evaluation of the individual technical processes, and also generally as a foundation for a consistent communication of all project partners.

The implementation phase started at the end of the year 2014, commissioning is planned for 2016.

## Optimising the Utilisation of a Therapy Centre with AnyLogic

A major challenge facing hospital directors are the continuously changing framework conditions in the healthcare sector. These demand constant adaption of the hospitals' operating organization, in order to rectify inefficiencies that may occur in medical-administrative terms as well as being caused by the building design of the medical facilities. Simulation software may help reaching this goal; it can realistically reproduce the complexity and dynamism of hospital routine, by removing the limits of a mere static process view.

In a current project, a process simulation was carried out by the hospital consulting firm ANDREE CONSULT in cooperation with simulation service provider SimPlan in a specialist clinic for psychiatry and psychosomatics. The simulation aimed to show the impact of a variety of factors on the therapy schedule of a psychiatric therapy centre. The initial analysis indicated a high amount of unused therapeutic time, possibly due to insufficient scheduling of the therapy sessions.



The goal was to make the utilization of therapists and patients, required room capacities and billable services transparent, in order to reveal economic resources.

To achieve a service range that corresponds to demand and economic success as well as an optimal utilization of the patients, the number of individual and group therapies per patient per week was defined. Further parameters were the minimum and maximum group size and the limited availability of the patients at specific times. To calculate the time utilization of the therapists and, in turn, the amount of time not spent on therapies, the time needed for preparation and follow-up of the therapies (like documentation and break times) had to be taken into account.

To be able to adapt the simulation to changing framework conditions, the simulation model was given to the

client, so they can use it to simulate different scenarios at any given time. The simulation file is usable on any computer, and no purchase of the simulation software is necessary.

As an example, by changing the values of the variable „time grid (minutes)“, the following cause-effect relationships can be simulated in the model:

- The group size of the group therapies
- The maximum room requirements (maximum number of therapies scheduled at the same time)
- The utilization of the therapists
- Therapies not taking place (therapy shortfall compared to the target value)

The time grid in minutes represents each next possible time window (e.g. 12:00, 12:10, 12:20) when the therapist can start the next therapy session.

The abovementioned example clearly shows the advantages of the use of simulation in health services. It allows for a realistic depiction of the present situation, but also of a possible target situation with improved processes. This leads to insights that cannot or only partly be obtained by other analysis methods, and therefore cannot otherwise be used as a factual basis for decision-making processes.

The great strengths of simulation especially come into play when analysing potential changes of framework conditions, resources or process structures. Parameters can be changed without risk with a few mouse clicks (like the time grid in the example above); room requirements, shift schedules and numbers of patients can be varied, processes can be adapted and much more. A simulation run with changed parameters only takes a few moments and offers the same extensive analysis data as the simulation of the present situation, while never disrupting the running of the actual medical facility at any point in time. This makes simulation an ideal decision support tool in addition to the classic analysis tools and methods.

For more information about simulation in the health services sector, please visit our website:

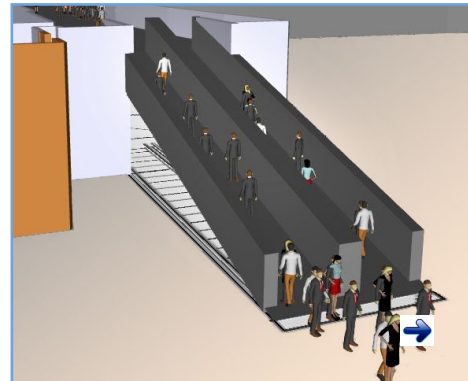
➔ [www.krankenhaussimulation.de](http://www.krankenhaussimulation.de)

## Simulation Tools

### New Version: AnyLogic 7.2

In AnyLogic 7.2, models now have a built-in fully integrated database to read input data and write simulation output; which can be exported with the model. It is as portable and cross-platform as AnyLogic models themselves.

Also new is the Fluid Library, which allows you to efficiently simulate the storage and transfer of fluids or bulk matter, as well as new objects for customizable escalators and serpentine queues in the AnyLogic Pedestrian Library, and much more.



→ Here you can find a detailed overview of the new features

→ Here you can download and test the new AnyLogic 7.2 (AnyLogic-Homepage)

## Dates

# sps ipc drives

**24.-26. November 2015:**  
**SPS IPC Drives in Nuremberg**  
(Germany)

Visit SimPlan **at stand 200, hall 6.**

→ To the trade fair homepage

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