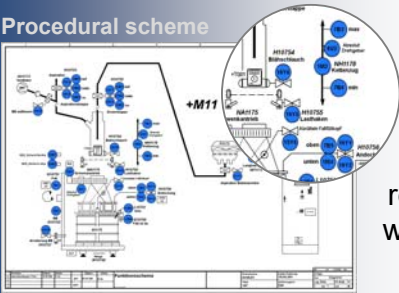# **ES**plan® SDK R2 to the Product configurator

With ESplan® **Software Developer Kit [SDK] R2 to customized Automation Solutions for Electrical Engineering.**

Procedural scheme

The subject of automation is more than ever in the focus of our time and is gaining more and more importance in the CAE area. The competitiveness and innovativeness of companies plays a central role in the contact of Industrial value chains. Specialized and individual customer requirements for the products under current conditions of production as well as the role of people in value-added processes are current challenges.

R&ID scheme
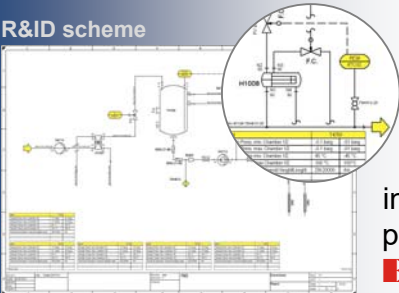
We considered these challenges very early on in the foundations and conceptual design of **ES**plan® 1986 & **E**space® 2006. In our products **ES**plan® & **E**space® the Innovation, the Idea of the Industry 4.0 is already realized. The value added starts with our products **ES**plan® & **E**space® already in the planning stage. Take advantage of this innovation and set the foundation for your success through Media-Free planning, Production data acquisition and Documentation with **ES**plan® & **E**space®.

Mechatronics
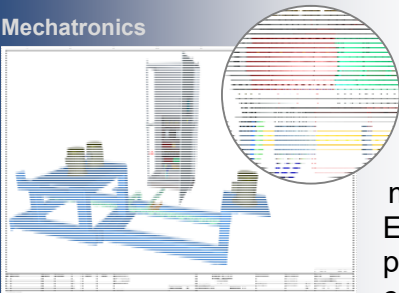
The integration of Production is once again the focus of interest, especially under new technical requirements of innovative interdisciplinary technologies. In Addition, the intelligence of the system Solutions is becoming more and more important in order to achieve free media processes. Intelligent technical systems play a Central role in the Entire technical Development for the design of Product innovations and process innovation. The basic prerequisites for networking the systems are continuous information flows without media breaks across all levels of automated production. The trend towards increased networking of intelligent Engineering Software and Production techniques is expressed with the term "Industry 4.0".

Pneumatics
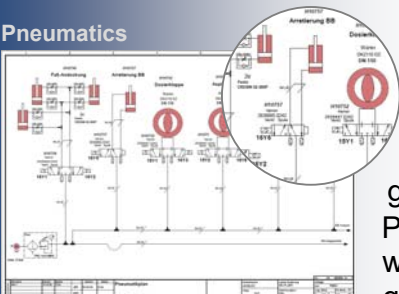
For the automated creation of documentation (Auto-circuit diagram generation), ESplan GmbH optionally offers an interpreter for **ES**plan® Pro. Using the **ES**plan® Logscript SDR2 R2 provides Software developers with the perfect toolkit fort he independent realization of a circuit diagram generator or the use of conventional product configurators.

Circuit diagramm

With the **ES**plan® Logscript SDK R2 we provide you with a command set or a language, which allows you to automate manual expenses of a project planning or planning up to the maximum level. Circuit diagram generators and / or product configurators can be implemented in external or proprietary development. This requires an **ES**plan® Logscript SDK R2, which allows you to obtain a command overview as well as their application.
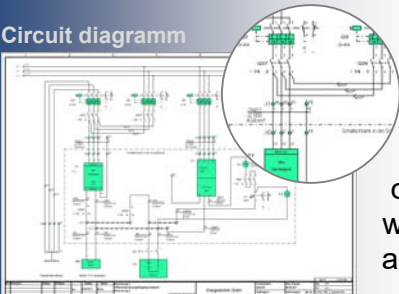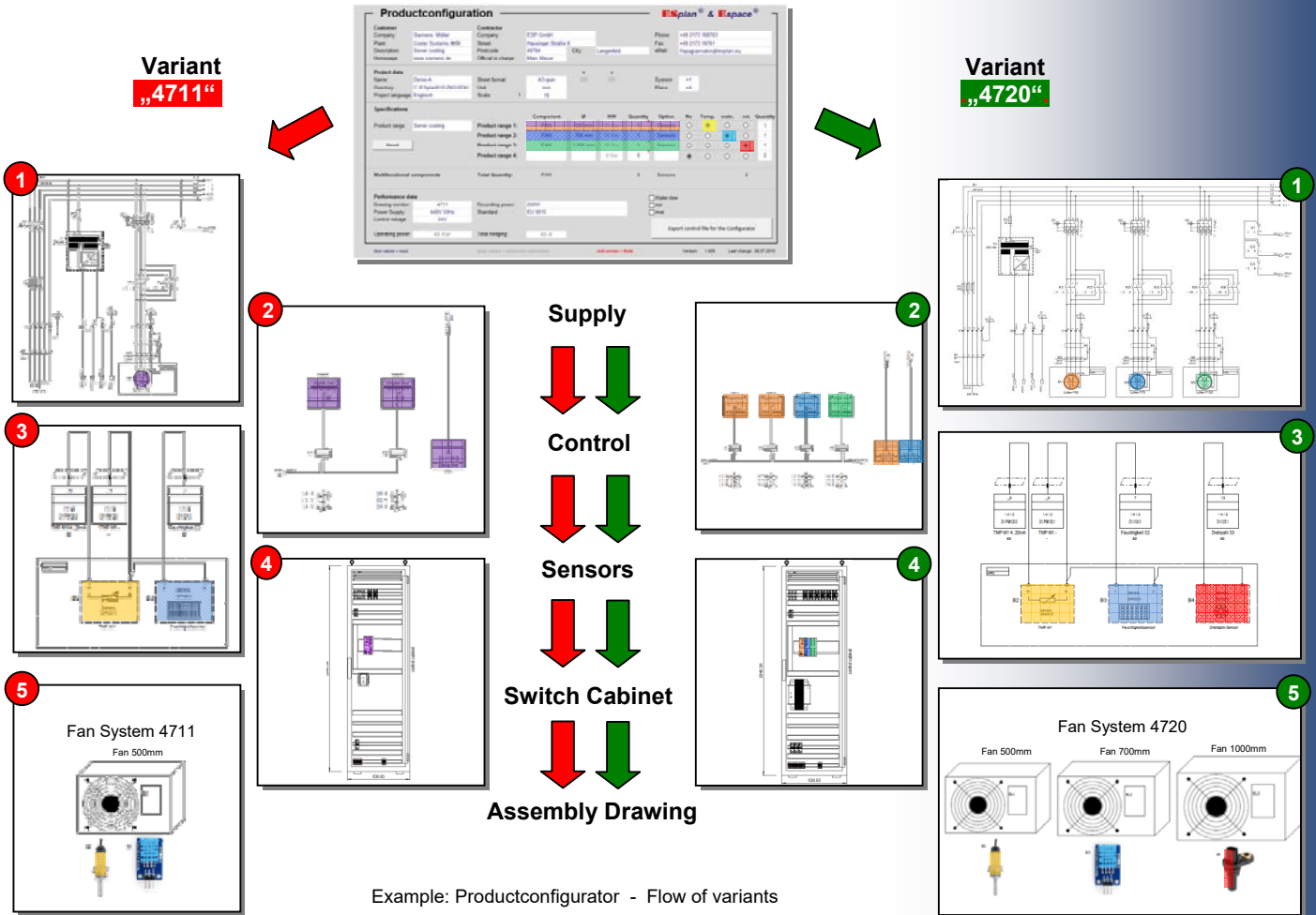
ESplan® SDK R2 to the Product configurator

Individual product configurators according to the "Modular Principle".

The Software ESplan® SDK R2 allows the detailed generation of projects based on ESplan® Pro Symbols, Macros and Commands. Our intelligent parametric Macros reduce the number of necessary macro variants. This is done via an Excel-based Macro description file, which on the one hand describes the Macro and also carries important parameters which are to be controlled variably via a circuit diagram generator or a product configurator.

Variant „4711"

Variant „4720"

Supply

Control

Sensors

Switch Cabinet

Assembly Drawing

Example: Productconfigurator - Flow of variants

Fan System 4711
Fan 500mm

Fan System 4720
Fan 500mm   Fan 700mm   Fan 1000mm

The aim is to master Product diversity and increase efficiency.

- Mastering the variety of variants
- Transparency of complex product knowledge
- Optimize performance in different business areas
- Optimization ot the production process and the order process
- Shortening the manufacturing process
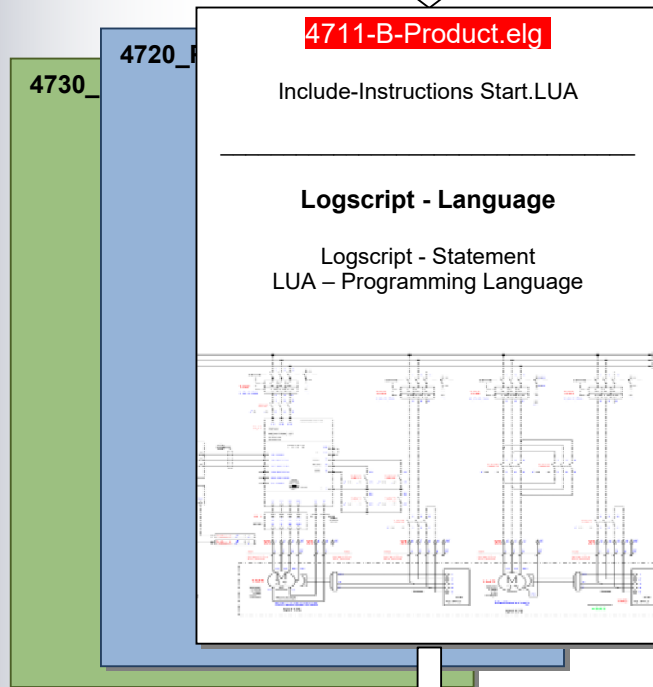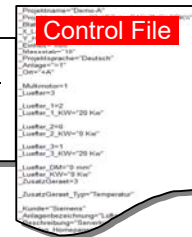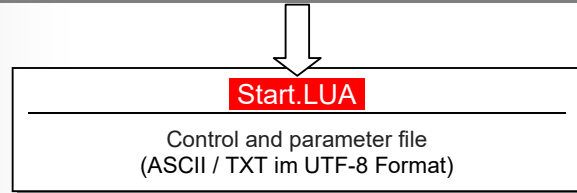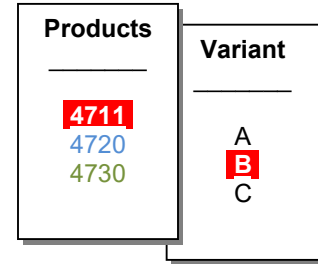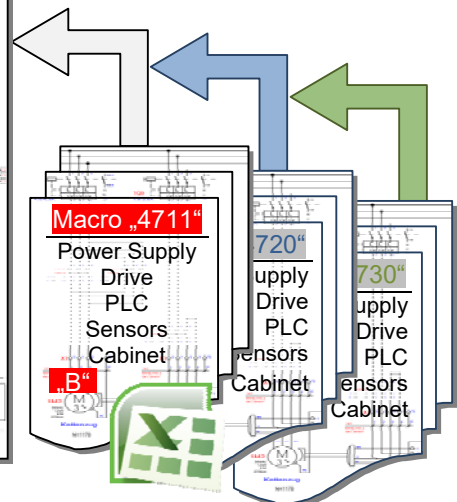- Cost reduction
- Increase in Sales

Flowchart Product configuration
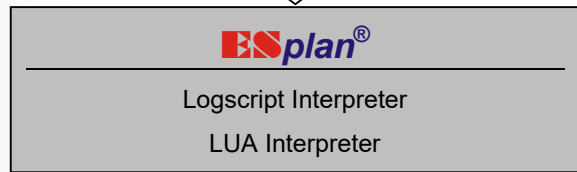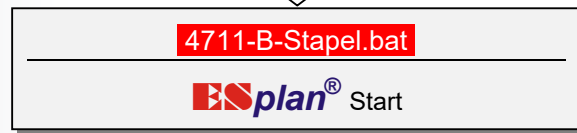
configurator

Created by the customer

or

from ESplan GmbH

Productconfiguration — ESplan® & Espace®

Products
- **4711**
- 4720
- 4730

Variant
- A
- **B**
- C

Start.LUA

Control and parameter file
(ASCII / TXT im UTF-8 Format)

Control File

4730_

4720_

4711-B-Product.elg

Include-Instructions Start.LUA

_____

Logscript - Language

Logscript - Statement
LUA – Programming Language

Switching Plan Parametrics

Macro „4711"
Power Supply
Drive
PLC
Sensors
Cabinet
„B"

Macro „4720"
Supply
Drive
PLC
Sensors
Cabinet

Macro „4730"
Supply
Drive
PLC
Sensors
Cabinet

Excel Steuerung

4711-B-Stapel.bat

ESplan® Start

ESplan®

Logscript Interpreter

LUA Interpreter

Parts List

ESplan® SDK R2 in Detail:

The Macro load process via ESplan® SDK R2 commands allows the controlled linking of Modules in a Cross-Page sequence via parameters. Among other things, the merging of Cables, Contacts, Tear-Off Marks, Potentials and the linking of SPS / PLC nut assemblies with daughter Objects as well as the application of clamps on strips can be achieved in a targeted manner. With this technique intelligent links that ultimately include functional electroplaning can be achieved between the various functional Macros on different pages, so that in many cases an auto generated project can be generated automatically without any post processing with ESplan® Pro and ESplan® SDK R2 has been. ESplan® SDK R2 provides programmers with Electrical Engineering knowledge with a very easy-to-use language that allows simple and intelligent implementation of complex processes such as those prevalent in CAE systems such as ESplan® Pro.
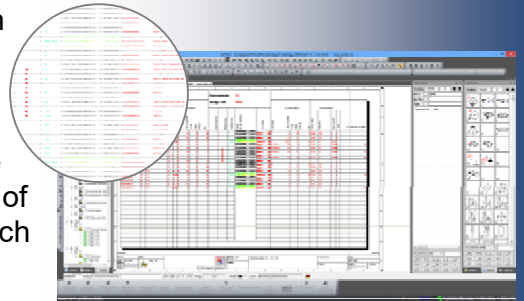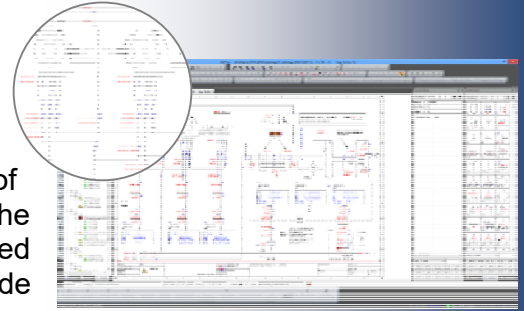
## ESplan® SDK Application Area:

Development of own Product configurators, circuit diagram or plug-in for ESplan®.

ESplan® SDK „Highlights":

- Logscript Interpreter is the prerequisite for the close collaboration of
- Programming Software and ESplan®
- LUA Interpreter allows source Code Import, Analysis and Execution of the LUA programming
- Process Automation Designer PAD is the support and expansion in the circuit diagram
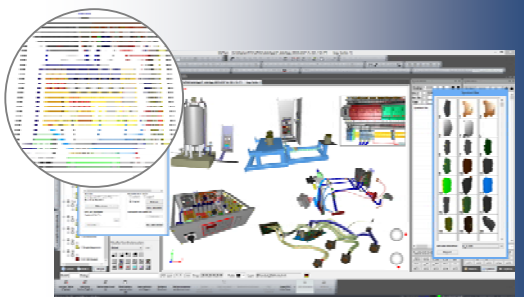- Customer is not depended on the manufacturer
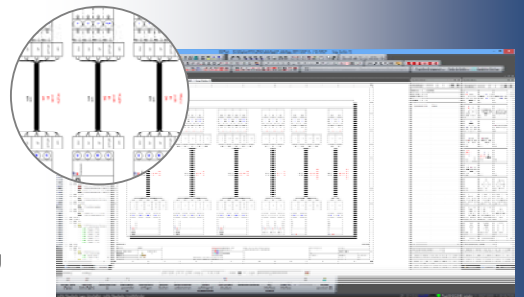
ESplan® System Features:

- Multi Thread Technology (parallel Process in real-time)
- Operating mode with Mouse, Menu, Keyboard
- Networkable under Windows Server 2003 and 2008
- Single or multiple screen solution
- Object-oriented programming and Architecture
- Performance-based file and Database management
- Windows Standard Database connection to all ADO/ODBC capable DBs
- Available in German and English
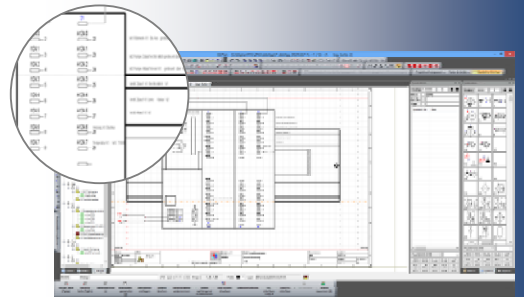
ESplan® System Requirements:

Operating Systems:	Windows Vista, 7/8/10, (32/64 Bit)
Hardware:	Commercially available PC, Mouse, Keyboard
Screen:	At least. 2 GB of memory
	> 2,6 GB Hard disk during installation,
	> 500 GB Working hard disk
Processor:	at Pentium IV / 2,6 GHz or compatible