syplan — Our Solution for
Integrated, Continuous,
Driver-based Planning
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1. **About syconomic**

syconomic is a boutique consulting firm specializing in building planning and decision support models. We help our clients translating their domain-specific knowledge into quantitative models and bespoke financial tools using Analytica, a visual modeling and simulation platform. Since 2015 we are the official European reseller and solution provider for Analytica and Cubeplan (http://cubeplan.com), the enterprise version of Analytica.

**Torsten Röhner**, founder and Managing Director of syconomic, has more than 15 years of experience in financial modeling, corporate planning, probabilistic risk modeling and analysis, and corporate decision-making. He has worked for clients in various industries, e.g. ALBA, Altana Pharma (now Takeda), Bayer Material Science (now Covestro), FMO Dutch Development Bank, Knorr-Bremse or Volkswagen. Torsten is a thought leader in enterprise-wide risk management and driver-based business planning. Torsten has implemented software solutions in treasury management, energy and commodity trading, portfolio management, and financial risk management. You can check out his profile on LinkedIn: https://www.linkedin.com/in/torstenroehner/
2. **Our Approach and Solution**

The core of our **syplan** solution is Analytica, a visual modeling platform for building and analyzing complex financial models and tools. It is designed to overcome many of the shortcomings of Excel and other spreadsheets software. Analytica has a wide and mature range of modeling and statistical analysis capabilities and allows for rapid, agile model development.

You can check out Analytica’s features and capabilities on our website [beyondexcelmodeling.com](http://beyondexcelmodeling.com).

Cubeplan, the enterprise version of Analytica offers, on top of this, browser-based access for multiple users and individual, interactive dashboards.

Cubeplan has been recognized as the **“Best New Vendor of the Year 2016”** by North American BPM Partners, the leading independent authority on business performance management.

After significant success of Cubeplan in Latin America ([http://cubeplan.com/cubeplan/case-studies](http://cubeplan.com/cubeplan/case-studies)) and entering the North American market in 2015, syconomic is now introducing Cubeplan as an exclusive partner in Europe.

Since partnering with Cubeplan, syconomic has, in 2017, developed and implemented the first Cubeplan planning solution in Europe for the Dutch Development Bank (FMO) in The Hague, Netherlands.
2.1. Main Components of Our Solution

Our solution for an integrated, continuous, driver-based planning consists of these three components:

- **Analytica** — for visual model building with multi-dimensional data and powerful risk and scenario analysis
- **syconomic Financial Modeling Framework (syFMF)** — for generating robust, integrated 3-way financial projections
- **Cubeplan** — for deploying planning models across the enterprise and providing individual, interactive reports and dashboards
2.2. Analytica — the Powerful Modeling Platform

We use Analytica as the modeling platform for driver-based planning models because of the following benefits.

"Easiest way we have ever seen to create a model." — BPM Partners, the leading independent authority on business performance management

Transparency

The credibility of financial models depends on their transparency, how clearly users and executives can understand their structure, assumptions, and calculations. Analytica provides visual influence diagrams to represent and navigate the business logic encoded in the models. This graphical representation of the variables and their influences provides an intuitive way to understand and communicate key assumptions and model structure. Complex models are constructed as a hierarchy of modules, each displayed as a node in its parent diagram.
Plain Language Formulation
With Analytica, power users are able to change the logic of the model with no knowledge about specific programming languages, i.e. formulation is similar to spreadsheets but use individual, meaningful variable names instead of cryptic cell references. Analytica comes with extensive, comprehensive function libraries (including standard financial functions), and offers the opportunity to develop individual, user-defined functions and libraries.

Integrated Documentation
The graphical representation of the model in the form of influence diagrams provides an automatic high-level documentation of the model logic and information flow within the tool. Additionally, each object in the model includes units, description, inputs, outputs, and more. On top of this, Cub- eplan provides an integrated, interactive Knowledge Base to further describe business processes with visual and text documentation.

Multidimensional Data and Calculations
Analytica uses multidimensional data cubes for handling, calculating and reporting data, powered by proprietary technology called Intelligent Arrays™. Formulas generalize automatically when existing dimensions are changed or new dimensions added. This feature allows for creating compact formulas which favors development of large-scale models.
Managing Scenarios, Risk and Uncertainty

A key part of financial models is dealing with a wide variety of risks and uncertainties. Analytica was designed from the ground up to support sensitivity analysis to identify the relative importance of alternative assumptions and policies, scenarios to explore the medium and longer-range implications of these assumptions, and risk analysis. It provides state-of-the-art methods for rapid calculation of multiple samples to represent volatility and uncertainty about market rates and other risk factors. It supports Monte Carlo simulation and related methods to estimate Value at Risk and other insightful measures of portfolio risk.
2.3. syFMF — Our Framework for Integrated Planning

Our syconomic Financial Modeling Framework consists of a pre-configured financial model which maintains the relationships between the three financial statements—P&L, balance sheet, and cash flow statement. It automatically calculates income taxes, dividend distribution, and interest on liquid funds. A standardized logic allows populating the statements with data generated by the operational, driver-based model or from other sources (e.g. imported actuals) and ensures that the statements are always consistent.

“The idea behind the syconomic Financial Modeling Framework is to separate the ‘financial model’ from the ‘operational model’ and link the two via a simple, standardized connector.”

—Torsten Röhner
Managing Partner of syconomic
Features of syFMF are:

- Pre-configured integrated 3-way financial statements
- Standard connector for linking any business logic
- Flexible planning horizon
- Continuous or rolling forecast
- Blending actual and forecast numbers
- Monthly, quarterly, or yearly aggregation
- Define and compare strategies and scenarios
- Sensitivity “Tornado” analysis
- Built-in functions for loans, investments, projects, etc.
- Flexible period deviation analysis
2.4. Cubeplan — Enterprise-wide Driver-based Planning
Cubeplan is the enterprise version of Analytica. It empowers collaborative planning throughout an organization and provides a unique visual environment with influence diagrams and dashboards to provide a comprehensive model of the entire business across various business units, legal entities, etc.

Web-based Collaboration
Cubeplan makes models and tools available via secure web browsers to enable collaboration with teams of executives, modelers, and analysts. It provides role-based access and security, allowing each user to view results and change assumptions for selected modules, depending on what type and level of access has been authorized for them.
Interactive Dashboards
Cubeplan makes it easy to create tailor-made dashboards for visualizing in a single screen key inputs and outputs and for performing interactive analysis by changing inputs and immediately assessing their effects.

Data Integration
Cubeplan offers seamless integration with existing information and database systems. You can integrate seamlessly to spreadsheets, databases, and other data sources with standard APIs. Cubeplan is often integrated with business intelligence and ERP systems for import of data and exchange of projections. CubeCalc is an Excel add-in that allows interacting with Cubeplan directly from Excel. With CubeCalc you can easily pull information from model variables and vice versa, send data to a particular model or even send an entire Excel file.

Calculation Power and Performance
Cubeplan uses in-memory computation for model calculations, avoiding extensive access to databases on hard disks or other slower memory devices. This allows rapid recalculation even in large models including multiple scenarios and risk analysis.
3. Applications and Use Cases
Our solution allows for many different applications and use case scenarios. Technically, planning models can either be deployed and shared throughout an organization using Cubeplan, or just used as a desktop application with standalone Analytica.

The following examples are typical use cases of our solution.

3.1. Strategic Planning
You can use our solution for strategic planning and scenario analysis. This does not necessarily require modeling the entire business logic of your organization. Instead, you can import an existing planning as a base case and model different strategic options or initiatives (e.g. M&A transactions, organizational initiatives, product launches, financing transactions, etc.). These elements can then be combined into scenarios and compared against the base case and each other, showing the impact on any financial figure, ratio, KPI, etc.

3.2. Enterprise Risk Management
Like with the strategic planning, you can use our solution for enterprise-wide risk analysis and management. In this case, you model each individual risk and its effects on P&L, balance sheet, and cash flow statement. Analytica's powerful built-in Monte Carlo simulation allows modeling all sorts of uncertainties, even very complex market price simulations with correlations, for example. Combining the base case with the modeled risks, you can analyze and display the aggregated risk for your organization. In the same way you can model potential risk mitigation measures and combine them into risk management strategies to choose the most effective one.

3.3. Integrated, Driver-based Planning
The most advanced way to use our solution is, of course, to model the entire business logic of your organization. With such a model, you can analyze the impact and relative importance of each driver of your business.

Developing such a driver model can be done gradually, meaning you can start with some parts of your business and expand the model step by step as you need to improve the quality of your planning. An integrated business planning
like this can be combined with the other elements of the Strategic Planning or Risk Management use cases as well.

Since Analytica and syFMF are completely flexible and modular, it is possible to implement any level of model complexity, and to expand and improve models at any time in the future if necessary.
4. **Typical Implementation Process**

Unlike other ERP or standard planning software, Cubeplan allows and requires developing individual driver-based planning models. It doesn’t force organizations to use a pre-defined planning logic developed by the software vendor, but enables them to capture their individual, specific business logic.

Developing this individual business logic cannot practically be done by the customer itself without reasonable training and experience. We therefore use the following typical implementation process which assures the fastest, most effective way to develop a working planning solution.

The typical implementation process consists of four phases with these main activities, outcomes, and time effort estimates.

<table>
<thead>
<tr>
<th>Specification of Model Design</th>
<th>Development of Pilot Model</th>
<th>Implementation and Training</th>
<th>Ongoing Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-/2-day workshop</td>
<td>Customizing syFMF and developing individual model logic</td>
<td>Software implementation, training, model modification and enhancement</td>
<td>Web-based or telephone support</td>
</tr>
<tr>
<td>Define scope and goal</td>
<td>Fully functional planning solution</td>
<td>Productive solution, trained users</td>
<td>Solving issues using the model, adapt and change model</td>
</tr>
<tr>
<td>3 to 4 person-days</td>
<td>5 to 15 person-days</td>
<td>5 to 35 person-days</td>
<td>Effort-based per hour</td>
</tr>
</tbody>
</table>

4.1. **Specification of Model Design**

A project typically starts with an initial 1- or 2-day in-person workshop (on-site) where we work through strategy, business model and financial model questions, constraints, requirements, practical challenges, etc.

In preparation of this workshop, customer provides us with information about the business model, operational process flows, and any other supporting documentation which might be helpful to better understand requirements.

During the workshop we specify and refine the objectives and requirements for the desired planning solution.
As opposed to the traditional “waterfall” approach where the end product is carefully thought through, designed, and documented in great detail, we are trying to identify and agree on the key objectives, functionalities, and deliverables of the planning system. In our experience, the concrete requirements and possible solutions usually unfold in parallel with the model’s development and should not tried to be anticipated at this early stage when the least information is available.

**Outcome and deliverables**

After the workshop we have a shared understanding of the scope and requirements, and agreement on the design of the Pilot version.

We create a brief documentation for further reference and guidance of the subsequent model development. Key part of this documentation is the “Application Manifesto.” This is a short paragraph outlining in a very focused and concise way the overall goal of the project. After going-live, the customer should be able to read the manifesto and agree that the model built aligns completely with the manifesto. It also serves as a constant reminder during the project to stay on course.

**Effort estimate**

The time required for this task is 3 to 4 person-days on our side— one or two days for conducting the workshop, one day each for preparation and for documenting the outcome.

4.2. Development of Pilot Model

Based on the specification of the model design, we build a Pilot version of the planning solution. This Pilot version is a fully functional model developed in Analytica and deployed in Cubeplan which fulfills the initial set of challenges and goals. We usually set up Cubeplan on a Cubeplan test server for the development of the Pilot version, and use test or demo data for privacy reasons.

Part of the Pilot model development is customizing the pre-configured financial statements of syFMF according to the reporting requirements and the organizational structure of customer’s organization. syFMF is an Analytica add-in we license to customer free of charge; we only charge for the days required for
customization. (The individual operational business model is delivered as Open Source for customer to adapt and scale as their own.)

Analytica allows for rapid model building with short, iterative development cycles. We therefore use an agile modeling approach with weekly or bi-weekly development "sprints." A sprint can be seen as a small, self-contained project, covering design, build, integrate, test and demo activities. The outcome is always a new functional increment of the solution and can be reviewed via web meeting or on-site.

After a series of sprints, we present and test the Pilot version on-site together with stakeholders of the customer.

Outcome and deliverables
The main deliverable of this phase is a fully functional Pilot version of the planning solution. This version will not comprise each and every feature of a potential final solution but will provide the customer with the opportunity to better understand the possibilities and options of Analytica and Cubeplan.

The Pilot model is the basis for further adaption and enhancement of the planning solution, which customer can do either internally or using our expertise. Based on the experiences and lessons learned from developing the Pilot model, we can also better determine other requirements and additional features of the solution.

Effort estimate
The time required to develop the Pilot model is very much dependent on the scale and complexity of the model logic. From our experience, the rage of person-days is between 5 and 15. After the specification workshop we are able to narrow down the effort and provide a fixed price for this phase if desired.

4.3. Implementation and Training
After initial testing and sign off by customer, we install the planning model either on customer's own servers or provide it as a hosted SaaS (software as a service) solution.
At this point, we provide intensive user training. The training usually takes 3 to 5 days and provides thorough insight into the functioning of Analytica, the syFMF framework, and Cubeplan. The specific content and focus of the training is typically tailored for two types of users—regular and power users. We can rely on a set of standard building blocks which we have used and tested in various training formats.

Based on the pilot model, the customer decides how to continue to use and expand the tool—either on their own or using our help. We are happy to continue supporting customers with our analytical and modeling expertise and help implementing additional requirements and ideas faster and more effectively.

In this case, we define the functionalities and features of the final planning solution together with the customer, based on the experiences and lessons learned from developing the Pilot model.

Outcome and deliverables
After this phase, customer’s staff will be well trained in using Cubeplan for creating reports and interactive dashboards as well as navigating and understanding the model logic. Power users will be able to modify, adapt, and extend the operational driver model or build their own models.

The main outcome of this phase is a productive planning solution ready for going live. This solution should fulfill the overall goal of the project as defined in the “Application Manifesto” (see chapter 4.1).

The documentation of the planning model should be integrated in the model itself using Cubeplan’s built-in documentation functions and Knowledge Base. In case we are developing the final model for the customer we will create comprehensive documentation of the planning model.

Effort estimate
The time required for this phase comprises at least the days of the user training incl. preparation. We calculate approximately a half day of preparation for each training day. For a 4-day training session this results in 6 person-days.

The time required to develop the final model is, as for the Pilot version, very much dependent on the scale and complexity of the model logic. Therefore,
we can only come up with a relatively wide rage of 10 to 30 person-days. To reduce the uncertainly and providing customers a higher level of confidence and protection, we usually grant customers a unilateral, “no quibble” veto over the hours we charge at any stage of the project. This way you decide what you think is reasonable, and pay only that.

4.4. Ongoing Support

After going live with the planning solution we provide support for answering questions about model use or adapting the model. We are available via telephone, email, web meeting, or on-site if required.

Lumina, the Cubeplan and Analytica software vendor, will provide technical support, patches, and upgrades for Cubeplan according to a separate “Cubeplan Service Level Agreement.”

Effort estimate
We charge customer for our ongoing support effort-based per hour.

The cost for the “Cubeplan Service Level Agreement” is included in the yearly license fee for the software.
5. **Software Licenses and Hardware Requirements**

Cubeplan can be provided as a SaaS (software as a service) solution or installed on customer’s own servers. A basic Cubeplan license allows installing Cubeplan on two server computers, one for development and testing one for production use. The license includes up to 16 users from within the organization. The computer hardware and remaining software described below must be separately acquired by customer if necessary.

Typically, customers need at least one Analytica license to enable power users to modify and extend the model, e.g. to change or extend the model logic or add new result formats, because Analytica is much more convenient for heavy modeling than Cubeplan alone.

5.1. **Software Licensing**

The Cubeplan license includes the installation of the software on customer’s server(s) by dedicated Cubeplan IT experts at no additional cost. The installation and initial setup can be done remotely, and take about two to three hours.

The proposed Analytica license is only necessary if power users are expected to modify and extend the planning model, e.g. to change or extend the model logic or add new result formats.

The following license prices are indications based on current pricing by the software vendor and might be subject to change. Both Cubeplan and Analytica licenses are subscription-based with yearly renewal.

<table>
<thead>
<tr>
<th>Software Licenses</th>
<th>First year (USD)</th>
<th>Renewal (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cubeplan — including installation, support and maintenance, and upgrades</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Analytica Enterprise 5.0 (per user) — including technical support and upgrades</td>
<td>2,795</td>
<td>1,395</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27,795</strong></td>
<td><strong>26,395</strong></td>
</tr>
</tbody>
</table>
5.2. Application Servers

Application servers include one server for development and testing, and one server for production. Cubeplan can also run on virtual servers with similar configuration; however a shared environment may affect performance depending on the other applications on the server.

Hardware sizing will be directly related to the amount of data, number of users, and complexity of the model. A standard configuration, based on 16 users can be defined as follows:

Hardware
- Processor: Intel Quad Core 3.3GHz E3 (4x8 = 16 threads) or faster
- Memory: RAM 64 GB
- Hard Disk: 100 GB SSD or SATA

Software
- Windows Server 2008 64 bit or later
- .NET Framework 4 or later
- Microsoft Access Database Engine
- IIS (Internet Information Service) including components ASP.NET and ASP
- Web browser: IE (11 or later), Chrome (v49 or later), Firefox (v45 or later)
- Administrator user for installation

5.3. Database Server

Hardware requirements will vary with the version of database and size of information. It is also acceptable to run the database on one of the application servers. This is a suggested configuration for an SQL Server 2014:

Hardware
- Processor: x64 2.0 GHz or faster
- Memory: 6 GB RAM
- Hard Disk: 20 GB
5.4. End-User Computers

End users may access Cubeplan from most kinds of computer, including tablet computers using a web browser with Internet access to the Cubeplan servers.

Software
- Windows Server 2012 or later
- .NET Framework 4 or later
- SQL Server 2012 or later standard version (minimum) or Enterprise (recommended)
- Administrator user for installation

Hardware
- Processor: Core 2 Duo or faster
- Memory: 2GB RAM
- Hard Disk: 1GB
- Network connectivity 10/100mbps or faster

Software
- Web browser: IE (11 or later), Chrome (v49 or later), Firefox (v45 or later)
- MS Office 2007 or later*
- .NET Framework 4*
- Visual Studio 2010 Tools for Office Runtime*

*) only applicable if CubeCalc is included (see Data Integration)