

SAS® Launch Revenue Optimization

Use highly accurate, data-driven models of launch sequences so you can maximize revenue



| Country | Difference |
|----------------------|------------------|
| Czech Republic (CZ) | € (4,474,479.96) |
| Bulgaria (BG) | € (1,023,117.00) |
| Estonia (EE) | € (758,022.89) |
| Latvia (LV) | € (429,377.67) |
| Malta (MT) | € (326,569.40) |
| Cyprus (CY) | € (127,888.11) |
| Luxembourg (LU) | € 0.00 |
| Denmark (DK) | € 0.00 |
| Belarus (BY) | € 0.00 |
| Sweden (SE) | € 0.00 |
| Slovenia (SI) | € 0.00 |
| Lithuania (LT) | € 32,168.38 |
| Slovak Republic (SK) | € 115,435.32 |
| Portugal (PT) | € 116,902.50 |
| Ireland (IE) | € 237,751.95 |
| Norway (NO) | € 965,049.66 |
| Spain (ES) | € 1,077,819.30 |
| Netherlands (NL) | € 1,214,251.40 |
| Finland (FI) | € 1,317,175.00 |
| Italy (IT) | € 1,538,546.12 |
| Austria (AT) | € 1,749,782.86 |
| Hungary (HU) | € 1,953,304.40 |
| Belgium (BE) | € 2,300,236.12 |
| Romania (RO) | € 3,152,886.00 |
| Greece (GR) | € 3,852,303.30 |
| United Kingdom (UK) | € 8,057,422.80 |
| France (FR) | € 11,600,625.96 |
| Poland (PL) | € 12,510,181.50 |
| Germany (DE) | € 13,275,358.00 |

What does SAS® Launch Revenue Optimization do?

SAS Launch Revenue Optimization uses rigorous mathematical optimization to identify the optimal launch sequence and timing for a new pharmaceutical product with unparalleled precision.

Why is SAS® Launch Revenue Optimization important?

International reference pricing can lead to significant price erosion for newly launched pharmaceutical products. SAS Launch Revenue Optimization uses advanced analytics to identify the most optimal launch sequence to reduce price erosion. A well-managed launch using SAS Launch Revenue Optimization can bring tens to hundreds of millions in additional launch revenue and globally sustained price lifts of 2-4 percent.

For whom is SAS® Launch Revenue Optimization designed?

This SAS OnDemand solution is designed for pharmaceutical companies with new products approaching global launch.

In the face of product pipeline pressures and revenue losses due to expiring patents, pharmaceutical companies are launching more new products. To maximize financial performance, they need to get to market quickly while navigating complex country pricing rules. At the same time, many countries use international reference pricing (IRP) rules that can lead to irreversible price erosion; by choosing to launch a product at a lower price in a highly referenced country, companies can be forced to accept lower prices in other countries for the life of the product, severely curtailing profitability.

Until now, companies have lacked the ability to truly optimize product launch sequences. Many have tried to use sampling techniques for this purpose, but because there could be more than a trillion possible launch sequences, sampling has virtually no chance of identifying the optimal sequence. This approach also lacks the analytic rigor, governance and support for data visualizations needed to analyze and model accurate scenarios and guide decision making.

Complicating matters further, most companies are using publicly available IRP information, which is typically outdated or incomplete, to model launch sequences; this can lead to suboptimal launch plans that can result in the loss of millions in potential revenue across the life of a product.

To make informed, optimal launch plans, your business needs next-generation analytics and powerful business intelligence tools capable of analyzing and modeling the full range of implications for launch sequence options. These analyses must be based on the most current, accurate IRP data so you can determine the best option for your business, quickly and efficiently.

SAS Launch Revenue Optimization - a SAS globally hosted solution - can do all this and more. Using SAS advanced analytics, it navigates through the complexities of IRP and identifies an optimal launch plan to help you reduce global price erosion and increase launch revenue. This approach yields a truly optimal answer, in contrast to traditional sampling approaches used by competitive and in-house solutions.

Key Benefits

- **Maximize revenue and reduce global price erosion when launching a new pharmaceutical product.** Next-generation optimization analytics identify the optimal launch sequence and timing for a new product with unparalleled precision - preserving millions in revenue and approximately 2-4 percent in global price.
- **Realize value quickly.** Deploy in days for quick time to value, and tap our team of consultants with deep domain expertise for expert support throughout the process.
- **Visualize key insights and build alignment and support internally.** The solution's intuitive framework makes it easy to get answers quickly and provides built-in business intelligence tools to visualize findings and gain buy-in internally.
- **Access to the most accurate and up-to-date IRP data.** SAS has an exclusive partnership with IHS Markit, giving you the option to use best-in-class IRP data to run optimization scenarios.

Product Overview

Rather than sampling from more than a trillion launch sequences, SAS Launch Revenue Optimization uses rigorous mathematical optimization techniques to identify the optimal launch sequence for a given product, giving you the highest degree of confidence in your decisions. Specifically, it uses mixed integer programming and branch and cut solvers to identify the optimal global launch sequence and timing. Using advanced tools, you can then customize and nuance models when running optimizations, refining them until you have a launch plan that maximizes revenue.

No other solution on the market today can deliver optimized launch plans with this level of precision. And this optimization can have huge impacts on the bottom line.

As a SAS hosted solution, SAS Launch Revenue Optimization can be deployed quickly and cost effectively, and scaled with ease. Equally important, it requires no up-front hardware investments or maintenance on your part.

Access to complete, accurate IRP data

Accurate and up-to-date IRP data is critical to determining the optimal launch sequence and timing - but publicly available data is usually incomplete and out of date. To address this, SAS has partnered with IHS Markit, giving customers like you the option to use their trusted IRP data for analysis.

Powerful algorithms

Proven algorithms and advanced analytics enable the solution to identify the optimal launch sequence; rather than sampling among more than a trillion launch sequences, our solution uses rigorous mathematical optimization techniques to identify the optimal launch sequence and give you the highest degree of confidence in the results. For example, it uses an algorithm that is based on operations research and is enabled by mixed integer linear programming and branch and cut solvers to methodically search and find the optimal launch sequence after heuristics have been applied to eliminate illogical sequences based on experience (or "rules of thumb").

Built-in business intelligence capabilities

Built-in business intelligence capabilities make it easy to visualize findings, which helps you gain consensus internally. In addition, you can dig deeper into recommended launch sequences to understand and interrogate them. Granular reporting and analytical capabilities provide insights into why certain sequences, pricing, timing and other options are optimal, given the latest IRP rules. And comparison features make it easy to compare an optimization against an alternative, proposed simulation.

Fast deployments and time to value

Available exclusively through the cloud as a SaaS model, SAS Launch Revenue Optimization can be deployed in days so you can quickly realize value from the solution. Because SAS Launch Revenue Optimization is built on an easy-to-use framework, it's easy to get answers quickly and visualize findings for key stakeholders.

Transparency and deeper insights

Competitive solutions are black boxes that deliver a recommended launch sequence, but they provide no ability to investigate, debate, or optimize it further. In contrast, SAS Launch Revenue Optimization is transparent and offers greater granularity and control, allowing you to interrogate recommendations to understand why certain sequences, pricing and timing will deliver optimal revenues and profits.

The screenshot displays the SAS Global Price Intelligence - TEST interface. At the top, there are navigation tabs for Products, Countries, Plans, Scenarios, and Exchange Rates. Below this, a 'Fictalium Base Plan (Fictalium)' is shown with various settings. The main part of the interface is a table with columns for Country, SKU, Currency, Launch Price (MSP), Fix, Lower Bound Price, Upper Bound Price, PPP Markup (%), Earliest Launch Date, Fix Earliest Launch Date, Maximum Launch Date, Num Periods to Suppress Events, Volume Forecast, Informal Values, Discount Values, Reference Pricing Events, Minimum Time First Revision, Revision Interval, In Market Lag, Launch Lag, Launch Rate, and Reference Rule. The table lists 28 countries and their corresponding SKUs, with various pricing and timing details.

Below the table, there is a summary section for '#747 : Optimization' and '#746 : Simulation'. It shows the MSP (€1,250,340,194) and Net (€1,250,340,194) for the optimization, and the MSP (€1,192,412,448) and Net (€1,192,412,448) for the simulation. It also shows the Average End Prices (185.59 vs. 173.79, 6.79%) and Average End Prices (Weighted) (195.47 vs. 178.04, 8.18%).

At the bottom, there is a table for '#747 : Optimization' with columns for SKU, Country, Difference, Revenue (MSP), Date, and Price. It lists 28 SKUs and their corresponding countries, differences, revenues, dates, and prices.

Above: Capture launch plans.

Right: Detailed pricing strategy report.

Key Features

Powerful algorithms

- Rigorous **mathematical optimization techniques** that can identify the optimal launch sequence for a product - and give decision makers the highest degree of confidence in results.
- **Algorithms** based on operations research and enabled by mixed integer linear programming and branch and cut solvers.

Advanced tools

These tools, which enable greater customization and nuance when running optimizations, include:

- **SKU decomposition** - Enables users to use multiple SKUs for a single product, as well as run simulation and optimization scenarios using different matching rules.
- **List and net price levels** - Allows users to optimize on either list or net revenue by including the discount from list to net price by period for each country. Users can view both list and net prices.
- **Currency exchange rate sets** - Users can view prices in the country currency and assign static rates or create new rate sets.
- **Formal/informal referencing** - Enables a country to reference with informal rules by assigning either a percent discount or an absolute value to each period of the launch window.
- **Maximum launch date bound** - Enables users to limit the launch date of a country by including the latest date by which a country must launch, along with the earliest launch date. They can also specify a launch window within which the country must launch.
- **Root cause analysis** - Enhances visualizations and analysis so users can examine the reason behind a country's launch date shift. They can also narrow the analysis down to focus on the pivotal country causing the shifts for multiple countries.
- **Separate pricing rules for events** - Allows users to specify a different pricing rule for each event (launch or reference) within a country.
- **List price or PPP referencing** - Enables countries to reference on list price or pharmacy purchase price (PPP) where PPP is a markup of the list price, but not both within the same scenario. PPP is converted back to list price (and possibly net price) for reporting purposes and for revenue optimization.
- **Suppress reference events** - Allows users to suppress any reference events within a specified period after launch.

Business intelligence capabilities

Built-in business intelligence capabilities, which help you understand, interpret, interrogate and share findings, provide:

- **Flexible views of scenario results**, including:
 - **Waterfall charts**, which show the order of country launch (country versus date grid). Users can display either revenue, price or volume in the grid; grid is color-coded by event type and magnitude.
 - **Event result detail views**, which can show information per country or for all countries. Tables provide the rules used to determine prices at the time of the event, date of event, price of target countries in the source country, and reference basket at time of event.
- **A comprehensive win/loss report** that delivers multiple data views, including:
 - **A summary table** that provides a high-level understanding of the total revenue and average ending price difference.
 - **A country table** that provides revenue, launch date and price differences by country; each country name provides a link to another table to examine the evolution of price over time differences for that country, which we call a country-by-country table. This table provides the details of the reference basket (the price of each target country in the basket and the rule that determines the price of the source country) that reveals the country or countries responsible for price erosion. This view also provides a network diagram of the source country reference basket and a chart of the price over time.
 - **A pivotal table**, which is similar to the country-by-country table, but in reverse. This view displays the target country and any source countries that were affected by the target country. The country-by-country view displays the source country and the target countries that influence the source country revenue.
- **Four charts summarizing the difference metrics (results) over time:**
 - ✧ Average global price over time.
 - ✧ Cumulative global revenue over time.
 - ✧ Average global revenue over time (per period).
 - ✧ Total global revenue over time (per period).

Governance and oversight

Use multiple built-in features that allow for greater governance and oversight, including role-based permissions, workflow governance and historical audit features.

Key Features (continued)

Data management

Move and manage data quickly and efficiently using a **Microsoft Excel template** that makes it easy to move IRP and launch plan data into the application. Users populate the template with the IRP rules and the launch price, date and volume forecasts for all periods and all countries in the product launch plan.

- The template is uploaded into the application with a few clicks of the mouse.
- A log is provided to show what information is new or changed since the last import of the same plan.
- New plans can be created within the application or uploaded using a previously created plan by exporting the previous plan, making the necessary changes within Excel, and then importing the modified plan into an empty plan.
- Navigation within the application is compatible with workflow. Tabs across the top of the user interface follow the order of the workflow, from left to right, from Products to Countries to Plans to Scenarios.
- Filter options are available on each tab to easily narrow the list of items.
- The Scenarios tab features a Tree view to easily navigate down a branch from the therapeutic area, to the product, to the plan and finally to the individual scenarios for the plan.
- Bookmarks enable a user to create a link to frequently visited branch locations.

Flexible deployment options

Use a flexible implementation methodology - including via the cloud as a SaaS model - for a simplified, fast and easy deployment.

- The multi-tenant aspect of the application means the hardware is already built.
- A customer can be granted access to their area of the application in days.
- Knowledge transfer sessions are provided by expert consultants.
- Once IRP data is available, the consultants can assist the customer with loading the information into the Excel template for faster time to value.
- Alternatively, a customer can license IRP data from IHS Markit, whose data is already baked into the application.

Security

- Take advantage of SAS Global Hosting and US Professional Services, which adheres to multiple certification standards to ensure data is secure, including SOC 2/3, TRUSTe Privacy and Safe Harbor. Specifically:
 - Global Hosting and US Professional Services complies with the SSAE 16 Service Organization Control (SOC) standard reporting framework, which focuses on the evaluation of controls in a service organization. A SOC 2 and SOC 3 (SysTrust Level II) engagement was performed in accordance with AT section 101, Attest Engagements, using the guidance provided in *Reporting on Controls at a Service Organization Relevant to Security Availability, Processing Integrity, Confidentiality, or Privacy*. The certification demonstrates that SAS has the processes and controls in place to preserve the integrity and confidentiality of our hosted solutions.
 - Global Hosting and US Professional Services has self-certified to the US-EU and US-Swiss Safe Harbor Frameworks operating by the US Department of Commerce with respect to its customer data handling practices and has committed to adhere to the Safe Harbor principles of notice, choice, onward transfer, security, data integrity, access and enforcement.
 - Global Hosting and US Professional Services has also been awarded TRUSTe's Privacy Seal signifying that its privacy policy and privacy practices have been reviewed by TRUSTe for compliance with TRUSTe's Trusted Cloud Program Requirements, including transparency, accountability and choice regarding the collection and use of personal information. TRUSTe's certification of Global Hosting and US Professional Services includes ongoing platform monitoring and multilingual privacy dispute resolution services for consumers.

[TO LEARN MORE »](#)

To learn more about SAS Launch Revenue Optimization, please visit sas.com/lifesciences.

To contact your local SAS office, please visit: sas.com/offices

