



garvis

WHITE PAPER

KILLING THE BULLWHIP

**Effective Business Planning,
Beyond S&OP and IBP**

Garvis.ai 10/2022



KILLING THE BULLWHIP

Effective Business Planning Beyond S&OP and IBP

Time to reconsider the consensus-based approach

The current volatility and uncertainty of demand and supply, combined with rising energy costs, requires more effective business planning.

The traditional S&OP approach, that is built on consensus leaves 2-4% of revenue on the table, needs up to 30% unnecessary working capital, and requires a lot of administration with unsatisfactory results. This approach degrades the demand plan by 27%¹. On top of that, its implementation takes years and it is now highly inadequate as the speed of change has overtaken the speed of the decision cycle.

Until recently a stable operating environment compensated for the latency and the lack of true insights, but reports indicate that the forecastability went down by 7%² so that time is past.

Integrated Business Planning added a financial dimension but is basically the same methodology.

The logic is flawed and potentially harmful for an organization because it:

- **Uses averages** and not ranges, hence ignoring variability and risk;
- **Assumes the past will repeat itself** but doesn't document the impacts in the past in detail, and drives the tiresome, re-iterative process of data cleansing;
- **Gives equal power to each stakeholder**, although each stakeholder has a different political agenda, and a different level of understanding of the complexities of the data;
- **Takes years to implement** and wastes hundreds of hours of valuable time each month;
- **Does not leverage the possibilities** of the digital age;
- **Is built for the consulting industry**, focused more on process-support than results;
- **Ignores the complexities** that planners must deal with and their deep knowledge of their business;
- **Drives the internal bullwhip** in the organization leading to unnecessary waste.

A better way would focus on an aligned plan which respects the scarce resources of an organization and of the world.

But with traditional S&OP the plan is always different from what actually happens and almost invariably costs will be higher and performance worse than planned.



¹ Navigating the river of demand, Lora Cecere, August 18, 2022

² e2open Forecasting and Inventory benchmark study, 2021

A NEW WAY combining forces of Humans, AI and Data

Garvis introduces a new way to align the organization around the real demand, combining its unique bionic platform (leveraging AI and cloud computing and real-world signals) with the insights of the planner; this enables the solution to handle the inherent variability and risk in today's world.

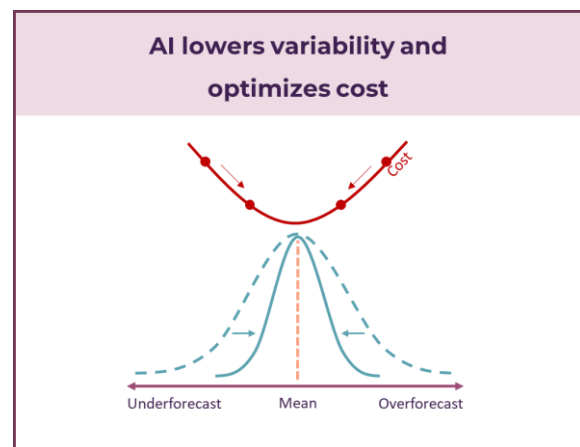
By appointing a conversation owner, the full understanding of the impact of this plan can be aligned with the rest of the organization.

Garvis offers:

- **BETTER RESULTS**
- **FORWARD-LOOKING**
- **ELIMINATES LAG**
- **SPEED**
- **CONTROLLED**

BETTER RESULTS

We combine the power of AI, the knowledge of the planner and insights into the drivers of the demand (history mining) with demand sensing (forward-looking signals) to yield a forecast error reduction of 20 to 30%. This translates directly to more stable production schedules and procurement.

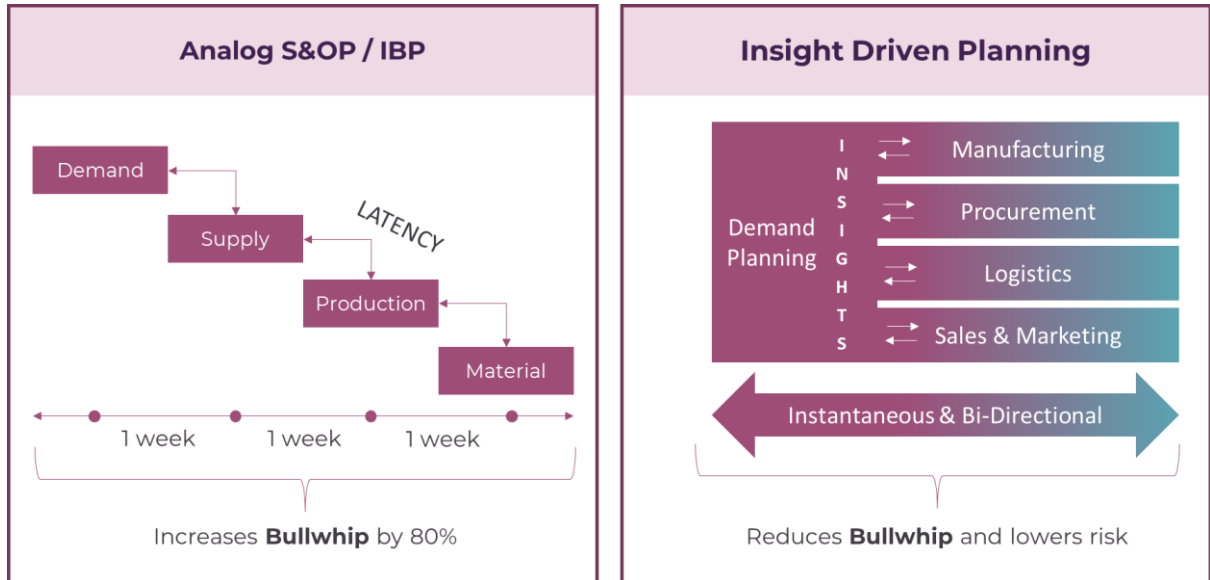


FORWARD-LOOKING

- Identifies problems before they occur so they can be addressed in less expensive ways
- Understands the demand, its probability (risk profile) and volatility and translates that to the different parts of the organization
- Has a demand hub for a more accurate view so that:
 - Sales can take action and shape demand
 - Production can address the profile (range) of the upcoming demand and evaluate capacity risks
 - Procurement can understand potential overstock, shortage and write-off issues
 - Planning can determine the need for resources

ELIMINATES LAG

All parties are kept in up to date as relevant exceptions are shared in real-time. The company moves from a bucketed, sequential process to an instantaneous one.



SPEED

Only a day to start evaluating the application, a week to start the process and a month to start producing results, which makes it a fit for the smallest to the largest organizations

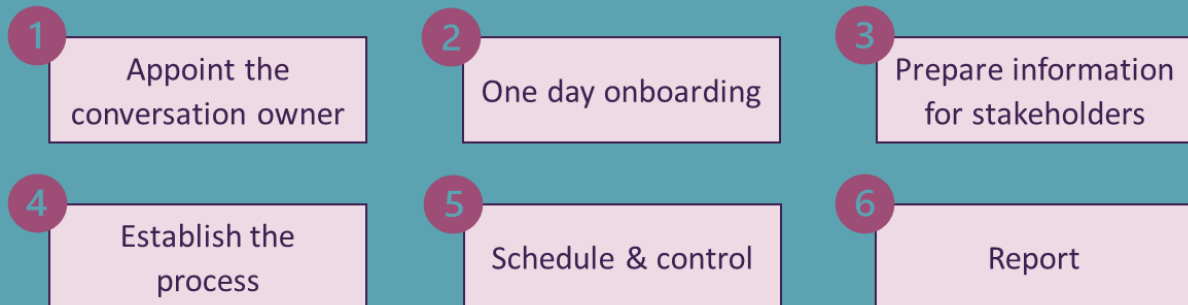


CONTROL



Unlike other AI applications, the planner remains in control and the forecast drivers are presented in a clear manner. AI enables the planner rather than attempting to replace them

Our Six Step Program can get 80% of the Results in the First Month:



1. Appoint the Conversation Owner

The conversation manager is responsible for the communication around the forecast and ensuring that its underlying insights are understood by the rest of the organization. Their skillset allows them to understand, explain and relate the variation, probability, and risk as well as the insights that drive the demand of the organization. They check that the process has the necessary diligence and care, and that all exceptions and information around orders, events and customers is updated and validated. With that basis they can communicate the demand as predicted to the rest of the organization.



2. One Day Onboarding

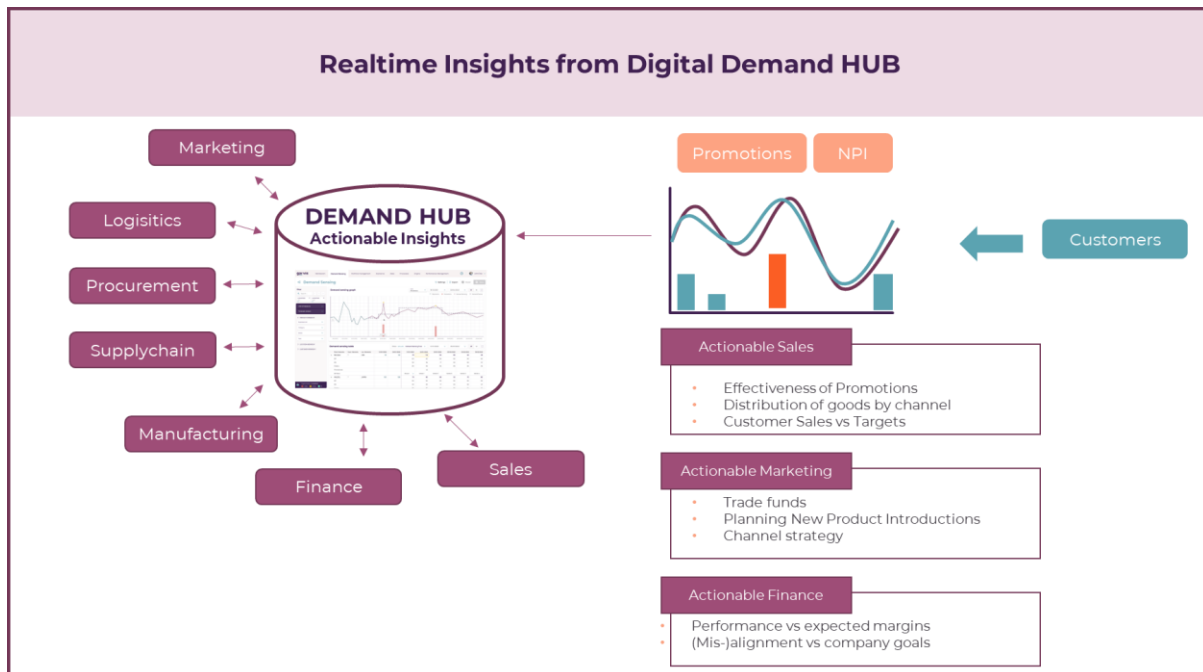
The Garvis demand planning suite provides both Demand Planning and Demand Sensing, including AI-based new product launch and history mining capabilities.

History mining allows the planner to understand what influenced the demand in the past, and how it combines with other factors. Understanding past promotions, events and customer actions allows users to build insights that create support for future decisions. The planner can interact with his knowledge through a bionic interface (a process we call Bionication™) thus allowing both the AI and the planner to learn and improve. These insights are explainable to all parties by the conversation owners.

Actionable Demand Sensing will use those insights to analyze order patterns, customer inventories, and sell out and will allow the organization to look forward, and identify problems early, make them actionable and forward them to the parties involved. These problems or exceptions can be shared with the stakeholders, who are responsible to deal with them.

3. Prepare Information for Stakeholders

All data and insights will be available in a data hub, or demand control tower where parties can easily access them.



- Marketing is responsible for new products, campaigns, etc. They like to understand the phase in phase out pace, the impact of the campaigns, success of new products and overall forecast drivers.
- Logistics cares about the capacity to move and store
- Supplychain combines the KPI's related to source, make and ship.
- Procurement would like insight on critical materials.
- Manufacturing needs to understand volatility of the demand and the risk profile by product or manufacturing group, to set the organization up for profit maximization.
- Finance likes to see an aggregate view, performance by category and the risk of underperformance.
- Sales is the expert on the customers and their plans. They will manage customer-specific promotions and customer-level plans. They are interested in promotional and customer performance vs. plan and budget.



4. Establish the Process

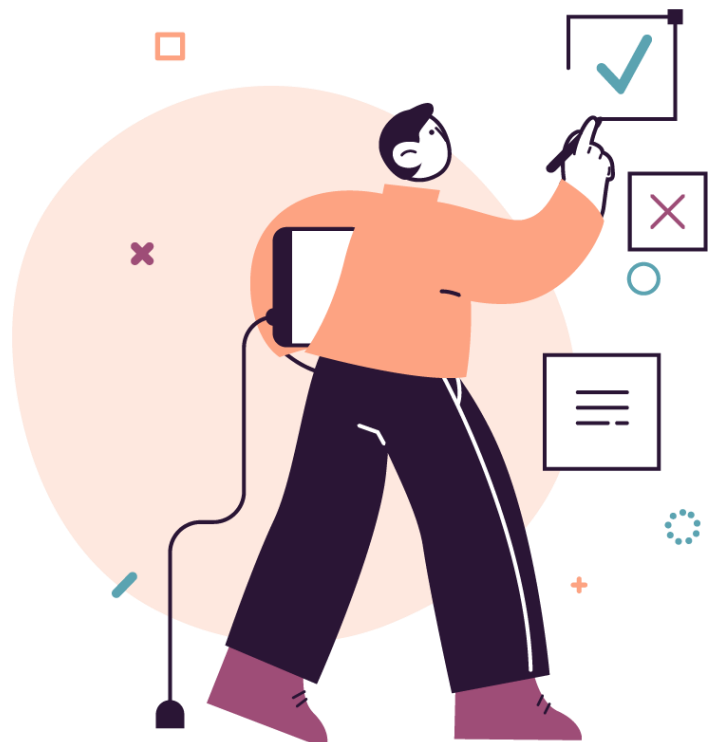
- The conversation owner (CO) sets up the cadence of the meetings and flags the agreements. Horizons can be chosen from daily to multiyear based on supply chain lead times, budgeting requirements, etc.
- All parties prepare actions or expectations for the CO. Cadence meetings are all forward-looking. The CO simulates and aligns different propositions.
- Monthly/weekly executable process
- Demand Sensing tracks whether there are changes in the assumptions and provides information for each meeting
- Sales can adjust demand shaping activities
- Marketing can increase or withdraw support for new launches
- Manufacturing can adjust to upcoming changes in demand
- Logistics can plan for upcoming promotions and events

5. Schedule & Control

- Conversation owner schedules and tracks deviation from optimal flow
- Looks for incorrect assumptions in the demand plan
- Excess or under-planned production
- Excess or under-purchased material

6. Reporting

- Metrics for error over lead-time, bias and extreme error
- Supply planning stability and thresholds



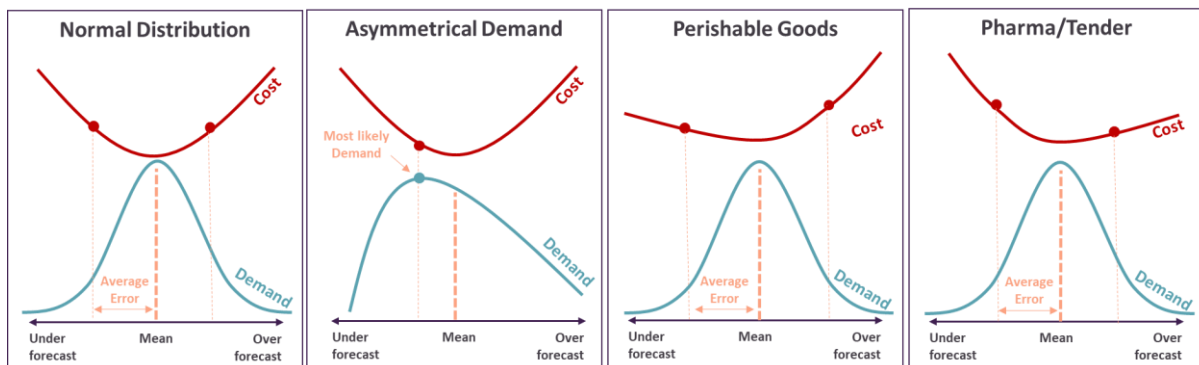
The Business Case

In the current volatile times, the CO process or Bionication™ allows an organization to rapidly align around the best possible plan while minimizing time spent in meetings.

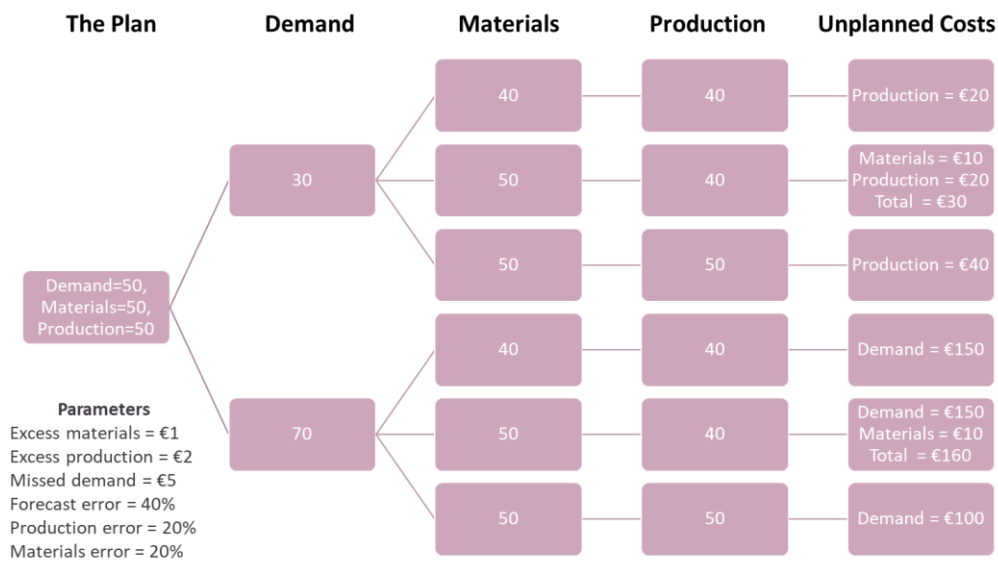
The assumption that each area handles their specialty automatically creates roles and responsibilities and allows the different stakeholders to align their actions around the plan. Since volatility (variability) and probability are known for any group of items, the optimal strategies can be chosen.

Some simple examples can demonstrate the danger of using averages and ignoring volatility of both supply and demand.

In the graphs below, the S&OP plan is in the center and costs are optimized based on a consensus forecast. But what happens if the forecast is different than predicted (as it always is). Then costs will be higher than expected. This is particularly critical for industries where missing demand by a little can rapidly raise costs.

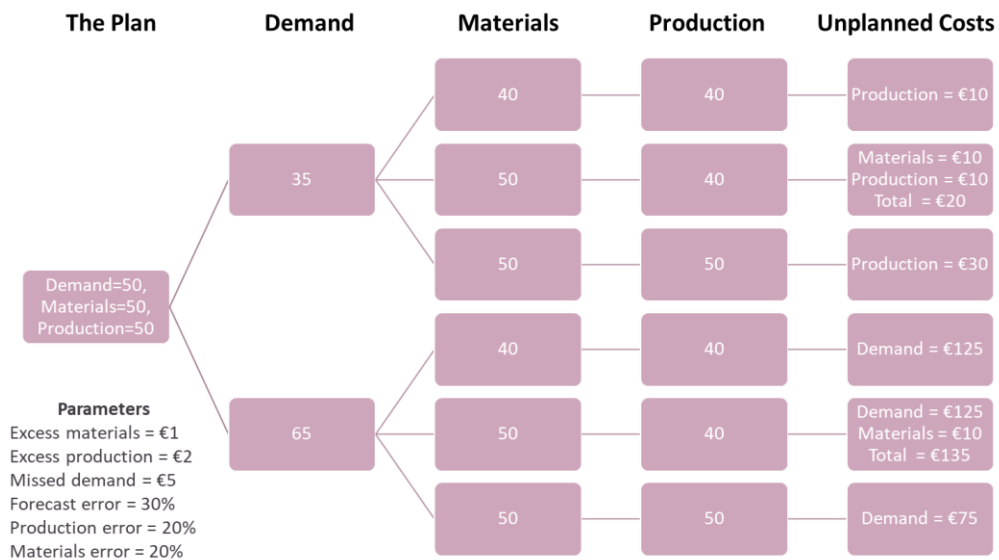


Example 1 Statistical Forecasting Error



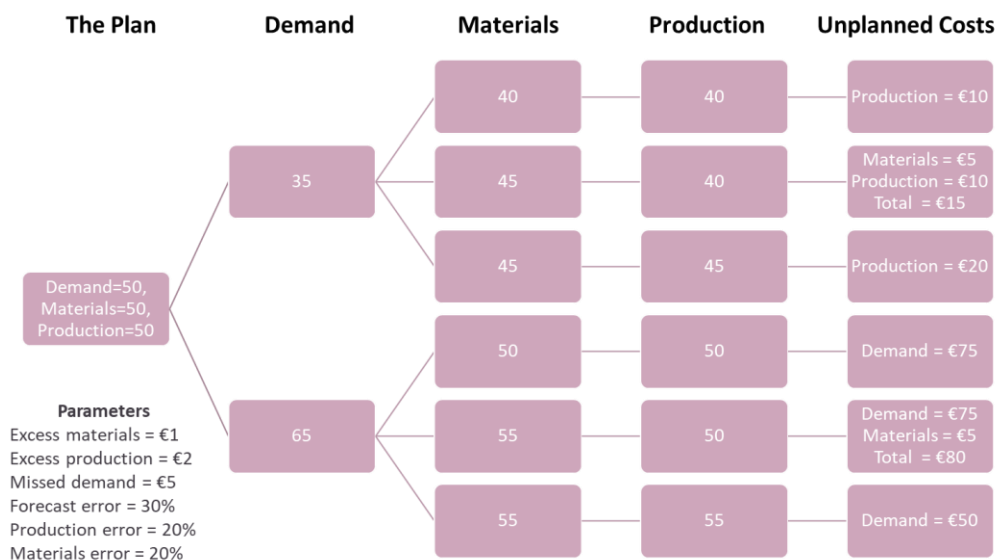
This is a greatly simplified case, but it demonstrates that variability will almost always raise costs. In these examples we assume production is limited by materials.

Example 2: 'Bionication' with conversation owner giving 25% lower Forecast Error



A reduction of forecast error will result directly in a reduction in total costs, in this case, a reduction of 25% in the forecast error (i.e., 30% forecast error instead of 40%) yields a reduction of 21% in unplanned supply costs (Average extra cost = €65,83)

Example 3:
'Bionication' in Combination with Actionable Demand Sensing



A BIONIC SUPPLY CHAIN DELIVERS TANGIBLE VALUE

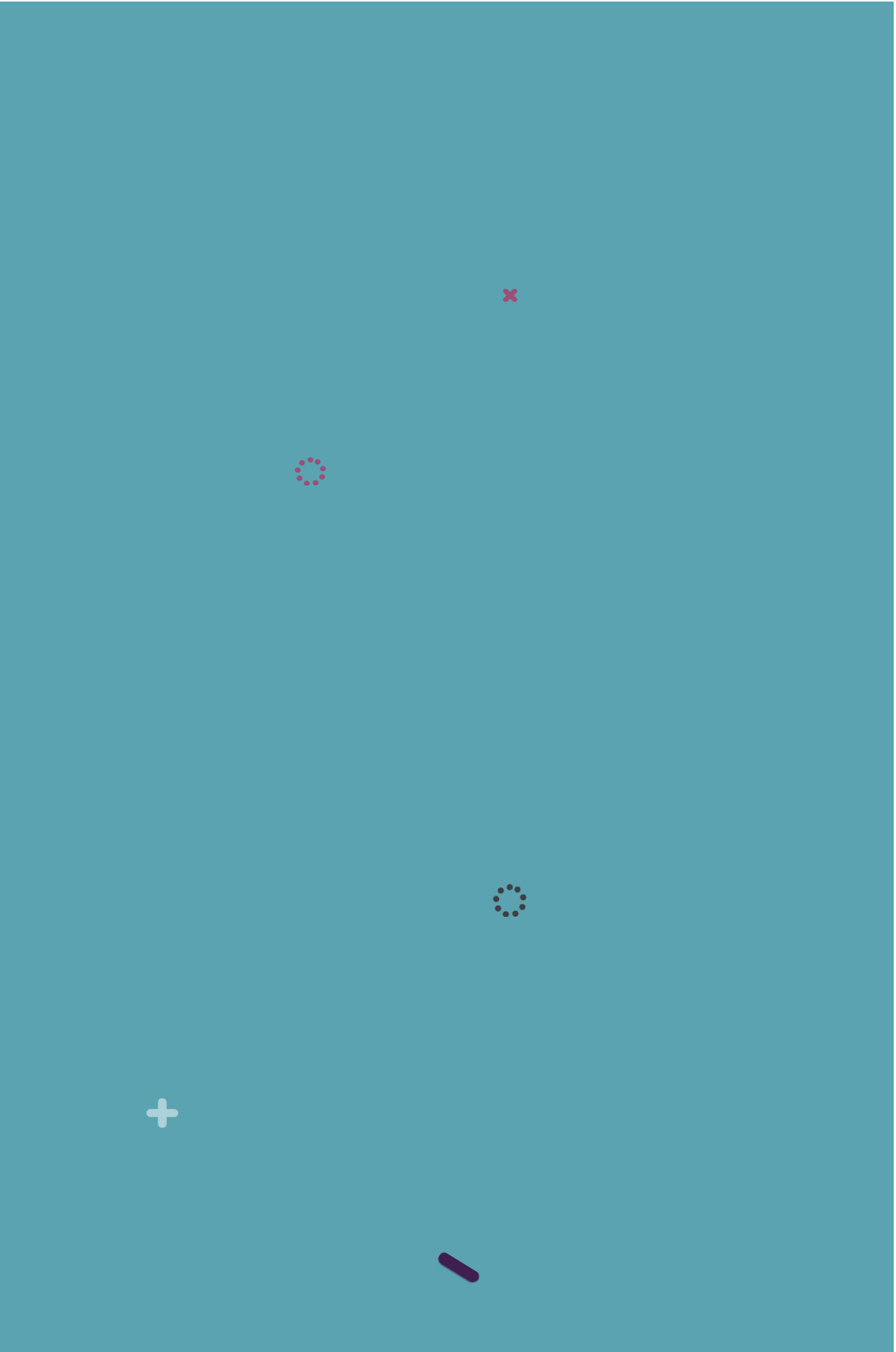


With Bionication and Actionable Demand Sensing, allowing planners to adjust planned quantities by 10% or +/- 5, the average extra cost amounts to €41.67, or 50% lower

Bionic Supply Chains Power a New Operating Model, Boston Consulting Group, 2021

Summary

- Achieve improved accuracy through human-machine collaboration
- Instantaneous communication through a Demand Hub reduces the bullwhip
- Bi-directional alignment results in the more effective use of resources and less waste
- Complex implementations are a thing of the past. Reduce risk and achieve immediate results.



Garvis, based in Antwerp, Belgium, is a revolutionary SaaS start-up that radically puts the planner at the center of the universe through a bionic demand planning system. It combines access to data in the richest sense with a user-trainable, transparent AI and empowers planners to create the best possible plans of the future. This paradigm shift towards man-machine collaboration results in less costs, lower implementation time (<24 hours), reduced forecast error and an evergreen environment.

To learn more about this solution, contact info@garvis.ai or visit www.garvis.ai.



Garvis BV © 2021
info@garvis.ai

Antwerp, Belgium,
Tel. +32 472623913

Bangalore, India,
Tel. +91 7880007244