



Achieving System-enabled Demand Responsive Operations at Cambium Networks – A Case Study

How Cambium *excels* at *Demand Responsiveness* by implementing Zyom’s MozartCC system

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Cambium Networks – Company Overview

[Cambium Networks](#) empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.

This case study summarizes how Cambium Networks’ cross-functional operations team achieved the next level of demand responsiveness implementing the [MozartCC](#) system from [Zyom](#)

THE OPERATING NEED – THE OPPORTUNITY

Following galvanized Cambium Networks' to undertake this system-enabled change project -

- **A major planned market event** - Cambium was planning to launch into the public markets (IPO). Objective: System enabler for critical Demand/Supply Planning processes, to help Cambium *scale*. Replace manual and error-prone tools.
- **A system enabler for Planning processes across functions** - Cross-functional Planning and decision-making process across Planners, key S&OP constituents (Sales, Supply Chain Ops, PLM), had big *information and analysis bottlenecks* which impeded quality cross-functional conversations and decision making.
- **Reducing errors that impacted plans 'quality' & planning cycle times** – Using “functionality-heavy¹” spreadsheets for Planning, resulted in data-cleanups, long cycle-times and errors. Objective: Reduce cycle time from Demand 'Forecasting' to Supply Planning by 40-60%, improve data and plan accuracy.
- **Predictable visibility of Supply from Vendors** – Fast, accurate planning of purchase-orders issued to Suppliers (CMs), tracking how Supply forecasts changed from cycle to the next. Legacy tools impeded clear inbound supply visibility causing gaps between plan and actual shipments.

Cambium envisioned that the right system would help resolve these issues and equip them to scale cost-effectively.

A TIME TO EXCEL: MOVING PAST STATUS QUO AND MS-EXCEL

Both 'Forecasting' and Supply Planning, and the downstream Purchase Order planning and execution processes were managed using functionality-heavy spreadsheets. With growing operations, the Excel² based tools were overstretched, often causing acute limitations:

- Getting data into 'master' spreadsheet from different sources before planning and analysis could commence was time-consuming & error prone
- Transitioning plan from month to month was time-consuming and error prone
- Corruption of old, stored demand data. Planner's machine could be a single point of failure.
- Demand Planner had to *skip planning* several items due to lack of time
- Aggregating supply plans across different product lines was time-consuming & error prone

The mandate was clear - the Excel files would go away and be replaced by the Mozart system.

THE FOCUS

Following **three** process areas were targeted, resulting in significant operating advantages:

Plan Demand → Plan Supply → Procure to Supply Plan

PLAN DEMAND

'DEMAND PLANNING' AS IT WAS – SPREADSHEETS 'ON STERIODS'

Demand Planning process required data from different systems, geographically and functionally diverse participants. With growing operations, the large Excel based tools were starting to fray.

¹ Functionality-heavy spreadsheets – implies 'complex' spreadsheets heavy with special functions (vlookups, etc.), macros, multiple-sheet references; In general, cumbersome & error-prone if changes are made or Planner goes from one planning cycle (say June) to the next (say, July). Can cause major alignment & integrity issues

² Excel used interchangeably for Microsoft© or MS-Excel

The complexities, drudgery, and errors, were eliminated with MozartCC³ system. Following highlights some advantages achieved:

Planning Demand for New Product Introductions (NPI) – Big Gains

With an accelerating expansion of the product portfolio, the Demand Planner would have been forced to migrate tasks to additional spreadsheets, over and above the current ones, increasing complexity. MozartCC makes it is easy to add new products, automatically categorize it and in the follow-through

“.. As we have expanded our product portfolio, this (NPI) is the biggest area of improvement that Zyom has brought to us”

- Katie L, Demand Planner, Cambium Networks

Demand Planning.

Sending finalized ‘Demand Plan’ to Supply Planning with the ‘click of a button’

In the past, sending Demand Plan to the Supply Planning team resulted in several *mismatches* between what the Demand Planner thought was in the Demand Plan, versus what the Supply team received. Often mismatches would surface late, resulting in time-consuming “debugging” of spreadsheet data. Mozart has radically simplified this, with a 1 click ‘Upload’ step, which takes seconds.

A Top to Bottom view of Demand Plan and its details – Better visibility → Better decisions

Without a system, access to detailed data was difficult, which is critical during reviews with Regional Sales.

The speed and ease of getting data at a granular level, despite being at a top-level view of the plan was an eye-opener (eliciting ‘Wow’ at times) regarding the capabilities that could be achieved with Mozart. Takeaway– Purpose-built systems tailored for usage, slashes times, helps teams to focus on core value.

Generating Global S&OP⁴ Reports with multi-faceted views is “so easy” – More effective sales and operations planning meetings, Smarter data-driven conversations

Key Reports in Mozart are used to facilitate S&OP meetings between Planner and Regional Sales. It provides easy access to different slices of demand and revenue plan with both top level and detailed demand data. The Report has accurate data, with the latest demand plan, including all changes based on feedback. Previously it was all done manually using Excel, with the planner scrambling to get it done in time, among other ills due to Excel spreadsheets.

The delighted Demand Planner indicated – “I use it (the Report) *a lot*”. Regarding the perception of Sales Leaders and other participants – “(they) really enjoy this”

Custom Reports, Ease of extracting plan & historical data to load into BI tools for flexible reporting, additional insights –

Mozart makes it easy to generate customizable Reports to study Demand trends, in Cambium’s BI⁵ tool, used in making decisions, or triggering follow-on questions for the Sales team.

³ MozartCC and Mozart is used interchangeably for Zyom’s cloud-native software system

⁴ Sales & Operations Planning – global, structured cross-functional forum: a key output = demand plan

⁵ BI = Business Intelligence (class of Enterprise Software)

Mozart will compress, “a solid day” worth of effort (minimum) to a few minutes of effort.

Supporting Data to help manage Channel Partner demand smarter –

A custom Report in Mozart provides the Planner key data and ability to give demand feedback to Cambium’s Channel Account Manager. Planner uses this report to figure out if a Channel partner could be ordering too much, which can cause excessive Channel inventory build-up, or sometimes simply answer questions such as: What’s going on?”.

Often, this leads to important insights. Example: Channel partner stocking up for a new customer program, which is why there was a sudden spike in orders versus historical patterns.

PLAN SUPPLY

SUPPLY PLANNING’ AS IT WAS – SPREAD ACROSS LARGE SPREADSHEETS

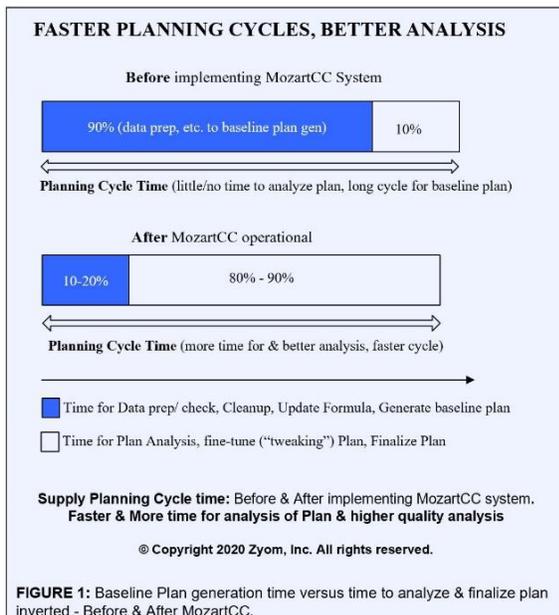
The planning exercise for 1000+ products across multiple geographies was entirely done on multiple, large, formula-heavy spreadsheets.

These limitations due to Excel were overcome with Mozart. Utilizing a structured, collaborative process, the requirements were gathered, and the changes were swiftly built using Mozart’s flexible platform, incorporating *built-in business rules*, and *tailored exceptions*.

Following highlights a few key capabilities achieved.

A Global View for Operations Management – A “Single Pane of Glass” for Supply Planning

Operations management wanted to zoom in and zoom out on different parts of the supply plan, or see the plan in its entirety. Example: review the Supply plan across all items globally, or dive into a specific product group. Mozart’s Supply Planning module (ATS⁶) was reconfigured to meet these needs.



Generate Plan & Review with Operations Management – Faster and higher confidence Planning

A Plan is only as good as the quality of analysis that is put into it.

Before Mozart, Planners had to spend nearly 90% of the time to prepare all data and get to a ‘Baseline’ Supply Plan. The analysis of the plan was rushed through in the remaining 10% of the time. With limited ‘analysis’, Planners were not confident during the subsequent operations management review.

With Mozart, the cycle-time to get to the “Baseline” Supply Plan was compressed by over 80%. This opened up 8X or more time to analyze the plan – leading to a higher quality Supply Plan, often generated faster, and presented to operations management with confidence.

⁶ ATS – Available to Ship (Plan) – key module in MozartCC for Supply Planning

Flexible System compresses time & effort – More time to plan and re-plan

Plan assumptions, data or inputs can change, often quite late in the planning cycle. This requires re-planning, which in some cases (example: changing inventory buffers) used to take days in the past. With Mozart most re-planning can be done in a few hours only. In the Planner's words –

*The system's flexibility has been one of the 'best things' about this (change)
- Angie B., Supply Planning Ops, Cambium Networks*

Rapid Analysis to identify “sudden” and “big” demand changes: Take data-informed actions in advance

Mind the supply ‘gaps’ - Better understanding of Supply gaps, Better ability to address gaps in future
This speeds collaboration between Sales and Supply Ops, enabling Sales to provide customers who are waiting for their “critical” orders, a more reliable ETA *in advance*.

Increased agility across the supply chain – Suppliers respond faster to Plan & P.O. changes

Supply plans can be generated much faster. As a result, the Supply forecast can be shared much sooner with the manufacturers (CM, ODMs⁷), who can then plan their component requirements sooner with their upstream suppliers, leading to a faster response.

With the pick-up in speed, Cambium can get their products shipped sooner, if needed. Conversely, if there is a demand slowdown, planners can push out build & purchase signals, or as needed, even cancel Purchase Orders (P.O.s) without incurring any penalties.

Better traceability of Supply Plan decisions, Higher confidence, Better conversations

In the past when a planner was questioned about their plan numbers, the answer often would be - “I’m not sure”. Equipped with the data from Mozart, Planners can confidently answer the “why” questions, even if it is from a few quarters ago leading to better conversations within Supply Operations, and across functions - Sales Operations/ Sales, Product Line Managers (PLM).

Data that supports analysis & decisions on inventory projections (\$ & Units)

Using Mozart, the Operations team can review the ‘ending inventory’ calculations, compare it with the EOQ “targets” provided by Finance quickly, identify gaps in advance, and take corrective actions.

Mind the data “gaps” - Identify and fix missing and inaccurate data quickly

Alerts in Mozart informs user about data ‘gaps’ in the source system (ERP), which can be quickly fixed. The end result – a higher quality, complete plan and reports.

ACTING ON SUPPLY NEEDS

Supply Forecast waterfalls for data-driven management of Suppliers

Suppliers⁸ often raise “issues” with Cambium Ops management, such as – “the supply forecast was ‘changed abruptly’ by the Cambium team”, as the reason for the increased buildup of inventory (and potential inventory liability for Cambium).

⁷ CM = Contract Manufacturer; ODM = Original Design Manufacturer

⁸ Supplier, Vendor, Manufacturer (CM/ODM) are used interchangeably for upstream supply chain partners

With Mozart, Cambium can jointly review waterfall data with the supplier, for the *changes* month over month. The resolution of all such ‘issues’ is based on *hard* data.

Fast & Smart procurement, anticipate shortages & liabilities

Once the Supply plan is finalized, it is converted into ‘proposed ‘PO Requirements’ in Mozart, using the latest demand and supply data. Mozart automatically recommends stock rebalancing across DCs. Planners can override the system recommendations.

The procurement and fulfillment teams also get advance visibility of potential shortages and liabilities so they can take pre-emptive actions before it becomes a real execution issue, such as - a real shortage.

TYING IT TOGETHER – CLOSING THE LOOP & REFLECTING ON BENEFITS

One of the singular achievements of this project was - the ability to get the cross-functional planning team from Sales and Supply Operations *to work together* on all the broad-brush objectives and details of the project. This is the hardest part of a project like this which seeks *end-to-end responsiveness*.

At Cambium, a committed partnership between Sales Operations (demand planning) and Supply Planning Ops (Supply Planning) which already existed, was enhanced significantly by the availability of a common system platform – Mozart. Using this platform, they can rapidly conduct their respective planning exercises, and then seamlessly hand it over to the other to ensure smooth availability of supply to fulfill demand – much like the impeccable baton-exchanges of gold winning relay teams.

The result is a team that is primed and ready to run fast, hard and smart - with ample time for analysis-driven decisions to *fulfill* customer orders. Closing the final loop (the figurate “last leg” of the relay) is the Procurement team, whose hand is now always on the pulse – ensuring what was requested in the carefully crafted P.O. is indeed what gets delivered on-time, every-time.

Based on structured and informal reviews with the Cambium team, it is evident that all the key system transformation objectives were accomplished, potentially more in some areas.

Raymond de Graaf, SVP of Operations, shares the following on the collaboration –

“We identified an ambitious capability-set in a system for our cross-functional operations team’s needs – from demand through to supply planning and enabling Procurement. Zyom’s Mozart system has brought this vision to fruition. The system fully implemented, has been in use for more than a year for our global operations. We appreciate our ongoing collaboration with Zyom, and continue to work with them on new, evolving needs.”

Raymond de Graaf, Senior VP of Operations

3 KEYS TO SUCCESS

Clear Goal & Solution Architecture – Focus on key needs & identify overall process flow architecture
Leadership – that understood it well, motivated and mobilized team into action to achieve goals
Collaboration – deep, intense, goal-oriented collaboration between the Cambium and Zyom teams

For more information: Contact Zyom at contactus@zyom.com ; in Subject: write “Cambium Case Study”