

EILT Partner Profile: DMR Consulting



We design, integrate and manage
high-impact, strategic business solutions.

DMR is the premier solution partner for Vitria within the Supply Chain & manufacturing industry. Although initial focus is in the Automotive sector the solutions and partnership have broader potential.

DMR Consulting and Vitria Technology formed a strategic relationship in 2002 to provide global organisations with leading Business Process Integration (BPI) solutions for the Supply Chain Sector. The relationship helps combine DMR Consulting worldwide software integration capabilities with Vitria's Business Process Integration architecture to give corporations with disparate applications an effective partnership to help deliver business process change. Vitria and DMR have partnered to enter into a strategic and joint selling activity for the Supply Chain markets across Europe. The initial objectives for the Partnership are to become recognised across Europe as the Implementation Partner of choice for supply chain collaboration within the Automotive vertical through delivery of their V-Chain (Virtual Enterprise for Supply Chain Management) solution.

V-CHAIN: Virtual Enterprise for Supply CHAIN Management



V-Chain's Goal

The main goal of the V-Chain is to improve **the OEM's supply chain, focusing on the idea of the "virtual company"** where communication, coordination and collaboration between the companies involved in the supply chain is improved, leading to more integrated and global solutions. In this manner the client benefits from value-added services, reducing in particular, the time to delivery of the vehicles, and for those companies in the supply chain, an increase in competitiveness, innovation and adaptability, thus improving their market position.

To achieve this goal, **new business processes** have been designed, the **planning and sequencing algorithms** have been re-engineered and developed, and a **new infrastructure based on Vitria BusinessWare** has been deployed. This platform allows a simple and easier communication and collaboration among all involved companies.

Background to V-Chain

The original initiative of V-Chain started in the Material Planning and Logistics (MP&L) department of Ford Valencia with the idea of solving the increasing problems and complexity of the global and integrated management of the whole supply chain and, more particularly, the

EILT Partner Profile: DMR Consulting

production planning and sequencing processes because of the high degree of flexibility within the Valencia plant.

The Ford Valencia plants maximum capacity is above 1900 vehicles and 4200 engines per day, and 81% of the total amount of vehicles and 69% of the engines are exported all around the world. **This plant is the biggest and more flexible production plant in Ford worldwide, and it can produce four different models** (Fiesta, Focus, Ka and Mazda 2) from two different brands (Ford and Mazda) **using the same assembling line**. Even more, it is planned for the future to increase flexibility up to seven different models using the same line.

Due to the fact that the project extends Ford's boundaries, it was decided to involve in the initiative, the logistics operator (Excel) plus three different and representative suppliers (Johnson Controls, F Segura and Dynamit Nobel).

V-Chain Description and Lifecycle

V-Chain started with a deep business analysis to see what were the initial problems and inefficiencies from all involved actors (not only the OEM) and what solutions could fit. This initial phase included a detailed problems study, analysis and classification into categories (supply related problems, information systems and flows problems, problems related with the lack of collaboration in the supply chain, etc.).

Another key decision from the beginning was the methodology used to detect problems and propose solutions. This methodology includes analysis and involvement of all actors in the solution definition using multi-**disciplinary and multi-enterprise working groups**, thus allowing the project to take advantage of the different visions from multiple companies with heterogeneous problems.

The proposed solution has driven the definition of a **new conceptual actor called OPS (Operator for Planning and Sequencing)** that will act as a central and unique point of responsibility and information exchange, providing global vision and optimisation, and allowing logic and solutions reuse.

This OPS hosts the IT infrastructure (Vitria, BusinessWare) that is the base on which we have developed all business applications identified in the solution definition phase.

Summarising, we can say that **V-Chain has had four main lines of action**:

- The **analysis and re-design of business processes related to the production planning and sequencing** taking into account collaborative models between the distinct companies that form the supply chain. This has included changes in the relationships between the OEM and its suppliers, and also the introduction of new strategy, culture, etc.
- **Redesign of the mathematical algorithms that control production planning and sequencing processes**. These new algorithms include new mathematical concepts (Fuzzy logic, met heuristics, etc.) plus several key differentiating capabilities like, isolate production regularity concept from the production constraints, use of constraints from all involved actors and not only from the OEM, tools for decision-support, etc.
- **Implementation of an IT infrastructure** (intra & inter-company) **based on Vitria, BusinessWare** that permits the communication and collaboration between the companies involved in the supply chain.
- **Development of new vertical business applications based on this infrastructure**. Besides applications corresponding to the planning and sequencing algorithms, examples of applications are: stock management; constraints management; ASN

EILT Partner Profile: DMR Consulting

(Advanced Shipping Notes) management; mid and long term demand evolution graphics; obsolete parts management; demand variation alerts; etc.

V-CHAIN started originally as a pilot in order to be able to see how this virtual enterprise approach could improve performance of the global supply chain (and particularly of the OEM) and see the provided benefits, but up to now the project has demonstrated its value and tangible benefits. That's why it has been decided by **Ford Europe to put all applications and results into real production** initially in Ford Valencia but with the final goal of extending the solution to all plants around Europe. This phase is currently under development.

Benefits for the Client

Since the beginning of V-Chain, the approach has been: first, to define some **Key Performance Indicators (KPI)** that allow us monitoring the performance of both each individual enterprise and the whole supply chain; then, implement the solution in a pilot that can run in parallel with the existing systems; measure these defined KPI's in both systems (existing one and the pilot), and compare their results; based on this comparison, decide whether to put into real production the pilot solution or not.

That's why we can now say that **the project has completely demonstrated its benefits and has a Return On Investment (ROI) in less than one year**. Benefits include demand and production variations control and management, extra-hours decrease, premium freights reduction, obsolete parts and stock optimisation, demand and production stability and regularity increase, production line workload reduction, less missing parts, etc.

V-Chain is clearly applicable to all members of the Global Supply Chain and hence DMR & Vitria are jointly marketing this solution across Europe to all OEM's and Tier 1 companies.