



Fewer design hassles. More innovation. No wires.

Lumen Freedom standardizes
its engineering lifecycle management
onto a common platform

by Josh Young

5-minute read



No longer the realm of science fiction, autonomous vehicles loom on the horizon, and electric cars are already a rapidly growing market in the global automotive industry. But for this vision of the future to fully materialize, these vehicles will need to be truly independent, negating the need for human intervention whether on the road, in the garage or even charging overnight.

“You don’t really expect a robotic arm to reach out and plug the car in for you each time,” comments Rod Wilson,



General Manager of Lumen Freedom, a manufacturer of wireless charging units for the automotive industry. “Whether private or commercial, these electric

vehicles won’t be independent without a wireless charging system. And recognizing that this was where the industry was heading back in 2016, the

Lumen Group decided to venture into wireless charging.”

Of course, pioneering an innovation is easier said than done. And as the business began developing and commercializing these wireless charging units, its design management efforts were only growing more complex and difficult to manage.

“For example, we have a base unit that comes in a couple of different charging modes,” notes David Elliott, Systems Architect at Lumen Freedom. “But we have a dozen clients lined up that want their own variants on just the power modes. As we started to consider how many different product variants and feature inclusions—such as above ground or underground charging stations—that our customers were going to want, it would not be possible to manage such a large collection with the tools at hand.”

Simplifies
management
by centralizing

>10,000

requirements in one tool

Boosts staff
efficiency with
better

balanced

workloads across teams

Complex designs, simple management

To support its product development efforts, Lumen Freedom chose to work with IBM Business Partner Olive Grove IT to deploy IBM® Engineering Requirements Management DOORS® Next and IBM Engineering Lifecycle Management (ELM) software.

“We looked at a few different tools,” recalls Elliott. “We weighed their pros and cons, and given that DOORS Next and ELM are essentially standards in the automotive industry, we chose IBM for our preferred toolchain.” With DOORS Next as a core component of the lifecycle within ELM, Lumen Freedom can now capture, trace and analyze its



mechanical, hardware and software requirements throughout the entire product development process, including any customer-specific variants.

“For a small company, they had a particularly complex challenge facing them,” adds Davyd Norris, Founder of Olive Grove IT. “And since ELM could

be delivered under a SaaS [software as a service] model, they wouldn't need to dedicate system admins to help with the tool now or in the future."

Lumen Freedom uses the Engineering Lifecycle Management software, in turn, to establish standardized traceability across its testing, defect tracking, validation and overall workflow activities. "We're using it daily as a Scrum board," explains Tony Rocco, Innovation and Technology Manager at Lumen Freedom. "It keeps everyone connected and promotes a shared vision throughout the production program. We don't have time

to make mistakes or repeat things, and Engineering Lifecycle Management lets us get it right the first time."

Wilson adds: "It's like a management tool for the people. It breaks up what was going on inside siloed teams and allows more inclusive cross-management. So when we focus on the right arm of the V model—as we focus on the quality of our offerings—we can trace back to each requirement from each stage of the process and make sure that those are reflected in our final builds throughout the validation and verification process."

At the same time, Olive Grove provides ongoing coaching and product expertise in Agile Systems Engineering methods to further help streamline development processes. "Our relationship with Olive Grove has worked out very well," notes Rocco. "There was so much flexibility in the IBM software that it wasn't immediately intuitive how we should use the tool. But Olive Grove brought in the methodology and backend support to tweak the tool to our exact requirements. We couldn't have done this without Olive Grove."

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David Elliott, Systems Architect, Lumen Freedom

Tracking more with less

With a unified workflow management strategy in place, Lumen Freedom simplified its overall production efforts, doing more with the same number of staff.

“When we started, we probably had a couple of hundred requirements,” recalls Elliott. “We have close to 10,000 requirements now. There’s no way we could have managed that without switching to DOORS Next. It would have been a nightmare. And all of this growth and complexity happened while our team size has stayed about the same.”

The Engineering Lifecycle Management software also helps drive efficiencies by centralizing design and workflow efforts through a common interface. “This



whole integration in the IBM toolchain is advantageous,” adds Norris. “Once you have the whole team working on the same toolchain with access to the same work items, it becomes easy going forward balancing resource usage. The company can quickly allocate work to a person if they have capacity or move tasks if they are overallocated.”

Rocco reinforces this sentiment, continuing: “With Engineering Lifecycle Management, we have a much more efficient way of handling information and activities. Our task management is more collaborative—everyone is working in the same tool. It breaks down the barriers between our teams.”

He continues, adding: “Our parent company, the Lumen Group, has been keeping a watchful eye on how this project has played out. And from our successes, DOORS Next and Engineering Lifecycle Management are slowly making their way into the group workstream as well. They’re leaning on us to figure out the best way to use this new toolchain.”

Alongside the value delivered by the IBM platform, Lumen Freedom is also thrilled with its choice to work with Olive Grove IT. “They were very supportive,” notes Elliott. “We were pretty much blown away with how responsive they were. They advised us to compare different options to make sure we had the right platform. They coached us through setting everything up. Their support went beyond just the IBM-side of things—they’ve pretty much become a ‘friend’ of the company.”

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Tony Rocco, Innovation and Technology Manager, Lumen Freedom



About Lumen Freedom

[Lumen Freedom](#) (external link) is a part of the Lumen Group of companies. Headquartered in Hallam, Australia, the business focuses on the design, manufacture and distribution of wireless electric vehicle charging systems.

Boasting a rich, 30-year history, the [Lumen Group](#) (external link) is a creator of automotive components and aftermarket parts. The global group employs over 500 staff, spread across nine countries.

Solution components

- IBM® Engineering Requirements Management
DOORS® Next
- IBM Engineering Lifecycle Management



About Olive Grove IT Pty. Ltd.

IBM Business Partner [Olive Grove IT](#) (external link) is a boutique IT consultancy firm that specializes in software development, change management and development and delivery lifecycle services. Founded in 2016, the business operates from its main office in Camberwell, Australia.