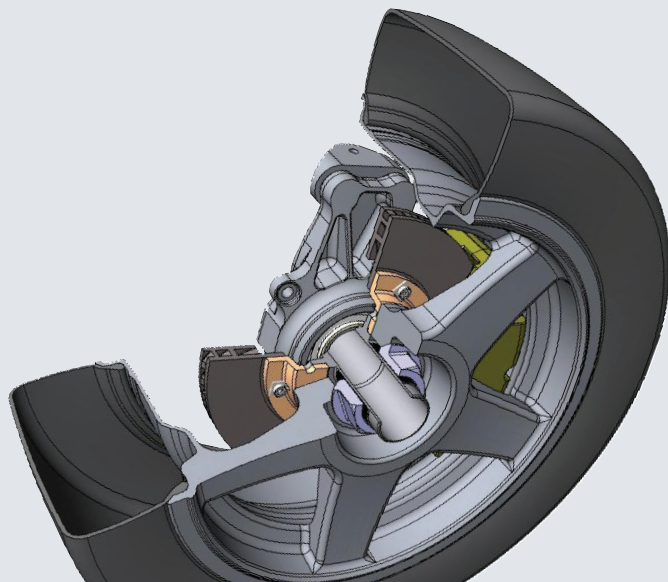# Inertia Engineering + Design Inc.

INNOVATING AN ELECTRIC-POWERED DELIVERY TRUCK WITH SOLIDWORKS ENTERPRISE PDM

With SolidWorks Enterprise PDM software, IE+D can use data management and revision control capabilities to collaborate and communicate with clients anywhere.

- Shortened development cycle by 30 to 40 percent

- Streamlined project communication and management

- Reduced potential for design errors through automated revision control

- Accelerated delivery of an industry innovation

Inertia Engineering + Design Inc. (IE+D) is a leading supplier of fast-tracked, streamlined product design and engineering services to the automotive, motor sports, and manufacturing industries. When company founder and President Ray Minato established IE+D, he based his business model on serving clients better by quickly facilitating collaboration, efficiently handling product data, and effectively managing projects. Minato realized that helping manufacturers to maximize their return on investment in tools and technology required the speed and accuracy of a fully integrated product development platform.

"By investing in integrated systems, I believed that we could eliminate a lot of the time and waste associated with outdated approaches," Minato explains. "Our business model and competitive advantage are based on doing away with the cumbersome design data communication and management issues of the past, which enables us to deploy our engineering expertise more efficiently. This approach ultimately benefits our customers by bringing innovative projects to fruition faster and more cost-effectively."

Minato determined that none of the CAD packages he had used would provide the level of integration his new firm required. When he evaluated SolidWorks® software, Minato realized he had found the system he needed. IE+D chose SolidWorks software – installing two seats of SolidWorks Professional, one seat of SolidWorks Simulation Professional, and SolidWorks Enterprise PDM software – because it provided a complete product development platform that included fully integrated SolidWorks Motion kinematics analysis, SolidWorks Simulation structural analysis, SolidWorks eDrawings® communication, and SolidWorks Enterprise PDM product data management software, as well as a 3D solid modeler.

"Although our work is mostly at the assembly level, it can involve elements as diverse as body surfacing, mechanical chassis development, and kinematics studies for designing suspension systems," Minato points out. "Using the SolidWorks development platform helped me to launch my business. Adding SolidWorks Enterprise PDM software has helped me to grow it."

SolidWorks

IE+D used SolidWorks Enterprise PDM
software to accelerate development of
the QuickSider, a battery-powered, electric,
urban delivery vehicle.

Bringing together multiple collaborators

IE+D's first project that involved utilizing SolidWorks Enterprise PDM was the
development of a zero-emissions delivery truck for Unicell, a leading truck body
design and manufacturing company. For end customer Purolator Courier Ltd.,
Canada's leading overnight courier, Unicell developed the QuickSider™ – an
all-electric, lightweight composite urban delivery vehicle – in partnership with
ArvinMeritor, the world's largest truck suspension company, and with several
design consultants.

As a lead design contractor for the QuickSider, IE+D understood that a project of
this magnitude, which involved a half-dozen separate entities, different CAD plat-
forms, and diverse types of design data, would take longer without a single PDM
system for managing the collaborative effort.

"We knew that doing this project without a centralized PDM system – relying on
FTP, date-coding of all drawings, file conversions, and data translations – could
become a nightmare in terms of revision control," Minato recalls. "So we worked
with Javelin Technologies, our SolidWorks reseller, to implement a web-enabled
version of SolidWorks Enterprise PDM software to tie everything together."

Managing diverse types of data

Implementing SolidWorks Enterprise PDM only took about four hours. The QuickSider
team quickly embraced and began using the software due to its intuitive, Windows®
Explorer-style interface. "With SolidWorks Enterprise PDM, there are virtually no
training requirements," explains Minato. "Everyone involved in the project could access
the latest revisions, which not only helped keep the project on schedule, but also
greatly reduced the potential for errors by automating the management of design
data and revision control.

"SolidWorks Enterprise PDM helped us to manage the large volume of documents as
much as, if not more than, CAD files," he adds. "Our SolidWorks vault included docu-
mentation, design specifications, open-issue lists, status reports, and project timelines,
as well as CAD files, analysis results, and revision control manuals and procedures. In
addition to managing these diverse files, the system updated everything on a weekly
basis and provided a full project data history with tracking capability."

Cutting delivery time, reducing error potential

By using SolidWorks Enterprise PDM on the QuickSider project, Minato says IE+D
was able to deliver the all-electric, zero-emissions delivery truck in 30 to 40 percent
less time than by using conventional development techniques, while greatly reduc-
ing the potential for error. "When you consider the number of parts and the number
of people associated with the different suppliers and consultants on this project, it
becomes clear how beneficial SolidWorks Enterprise PDM can be.

"The streamlined, automated approach to data management and revision control
on the QuickSider project really opened my eyes to the power of Enterprise PDM,"
Minato stresses. "We are using it to collaborate and communicate with clients out-
side of Toronto, setting up customer folders so they can access project data any
time they want with a simple web browser."