



**Success Story**  
Speeding Up the Transformation  
from Prototype to Full Scale



Product  
Realization  
Group®





## Company

FreeWire Technologies

## Location

San Leandro, California

## Industry

Clean Tech

## Business Challenges

- Missing product development schedule
- Making a smooth transition from prototype to production
- Meeting regulatory & reliability requirements

## Solutions

PRG's "on-demand" NPI consulting team

## Business Results

- Met critical end-of-year shipping milestone
- Established scalable & robust processes
- Product improvements & cost reduction enabled next round of funding

## How Product Realization Group (PRG) Partnered with FreeWire Technologies to Help Them Scale for Success

FreeWire Technologies is a leader in the design and manufacture of mobile power and EV charging solutions. Their products provide reliable and sustainable electrification beyond the grid.

When FreeWire contacted PRG, it had two products that needed scaling - the Mobi® (clean, quiet power for rapid deployment to replace generators and EV charging), and a new product, the Boost Charger™ (a battery-integrated DC ultrafast EV charger). Management needed realistic timelines and milestones for product development and to scale sales.

FreeWire had generated strong demand and interest from Fortune 500 companies. However, the product was still in final engineering stages and was not ready for full scale manufacturing. FreeWire needed product lifecycle plans, a robust and production ready design, and a process readiness plan to meet demand and grow revenues.



### BUSINESS CHALLENGES

FreeWire faced challenges to achieve its year-end goals and keep to schedule:

- **Create a clear project plan** that maps critical path and dependencies and identifies key target completion dates, with actual lead times.
- **Create and execute test plans** to verify product specifications could be met, eliminate infant mortality failures, and find the bottom of the reliability bathtub curve.
- **Align Product and Engineering team priorities and goals** based on complete Product and Engineering Requirements Documents.
- **Build New Product Introduction (NPI) processes** to scale production:
  - Develop document and version control for manufacturing procedures, repeatable processes, as well as traceable and verifiable record keeping.
  - Incorporate product reliability testing, vendor screening, materials management, and purchasing processes.
- **Achieve FCC regulatory compliance.**
- **Quickly add several specialized subject matter experts** able to manage the technical, regulatory, and operational interdependencies on this large scale project.

Given the newness of both product and market, FreeWire identified and prioritized its challenges in getting to scale:

- Assuring the manufacturing and operations teams could purchase raw materials to the required specifications. This was needed to repeatably build the product, meet quality requirements, and ensure no failures after customer delivery.
- Fundraising requirements necessitated demonstration of product traction so any delay in product readiness would have a major impact on the capital raise.
- Delays in product validation would impact production readiness.
- Maintaining product performance and reliability within a condensed timeline.
- Successfully controlling cost targets for profitability.

“Our company made a huge bet on our ability to make a dramatic shift from prototype to scalable manufacturing. PRG helped us build an organization, reduce risks and get our product to market on time. We hit the goals!”

**Martin Lynch, COO**  
FreeWire Technologies

## NPI “Tiger Team” for FreeWire

PRG sourced and vetted a group of exceptionally qualified people to address FreeWire's goals. This helped build a strong in-house team for supporting current and future growth. Expert resources included:

### Consultants

- Technical Program Manager Lead
- Technical Program Manager Support
- Reliability Manager
- Test Development Engineer
- Production Documentation Manager
- Materials & Supply Chain Manager

### Full Time Hires

(recruited by PRG)

- VP of Operations
- Manufacturing Operations Manager

## SOLUTIONS

PRG was ready for the challenges FreeWire presented, delivering an “A-level” NPI team to help FreeWire transition the Mobi from prototype to scalable production.

### Team Leadership through Technical Program Management

PRG delivered a seasoned Technical Program Manager (TPM) who worked with FreeWire leadership and helped lead the effort.

- The TPM collaborated with FreeWire engineering and marketing to define product development and delivery objectives to meet the business goals.
- The TPM led FreeWire through a decision making process to gain consensus on the product architecture and development priorities.
- The TPM organized two core development teams, created project plans, lead weekly project meetings, and sourced key long lead-time components to guide the teams to meet deliverables.
- The TPM introduced critical NPI processes during the product design stage. These included document control methods: document revision control, written test plans and reports, project documentation, and prototype configurations.
- The TPM helped to control cost targets and sourcing key components.
- The TPM developed repeatable and scalable processes.

PRG's reliability consultant completed an analysis of the design and helped make improvements to streamline FreeWire's test processes for consistent quality and scalable manufacturing.

- Transitioned FreeWire to manufacturing production test processes.
- Introduced DfX methodologies to assembly and test processes.

## RESULTS

By leveraging PRG's on-demand team of NPI experts, FreeWire completed development and NPI for Mobi Gen initial shipments before the year-end as planned. Production ramped up early in the following months to fulfill orders to major companies. PRG and FreeWire developed processes to enable consistent quality and scalable manufacturing in large quantity.

- FreeWire met highly optimistic year-end shipping milestones, despite the challenging, technically complex nature of the product.
- FreeWire ramped production to fulfill pre-booked orders to major companies the following year.
- PRG established NPI processes and ensured a high quality product without defects or reliability issues for high volume scale.
- With PRG's cost reductions and improvements, FreeWire increased its chances of receiving another round of funding.

## ABOUT PRG

PRG guides tech companies to make the leap from idea to full market scale. PRG's team of hands-on experts help companies speed up time-to-market, reduce risk, and lower costs. Our clients include medical, communications, consumer electronics, and industrial technology companies such as GoPro, EMC/Dell Computer, and Intuitive Surgical. For more information, visit [PRGnpi.com](http://PRGnpi.com).