



product concept development

works

## Select PCDWorks Clients:

ACT Seed Fund

Browline Metalworks

Coleman

CMG outdoor

Crystal Flash Energy

Freshloc Technologies

Highland The Pro's Brand

Ingersoll Rand

Kimberly Clark

Lego

MASCO

Office of Naval Research

Sunbeam

Telxon

**PCDWorks** discovers and combines technologies to create and commercialize breakthrough products.

### Understanding the Problem

PCDWorks provides its clients a wealth of technological expertise across a wide range of industries and product areas. This includes a collective century of product development and commercialization experience, along with our research department, which is dedicated to continually finding and cataloging useful technologies in many different industries.

### Creating Recombinant Technologies

With research and problem statement in hand, PCDWorks rapidly generates and analyzes many different concepts which combine unique technologies to achieve the client's needs. The cross discipline nature of PCD's expertise provides our clients a much more exhaustive approach to any possible solution.

### Fast Track to Proving the Concept

The recombinant technologies created through PCDWork's design process are best proven through quick cycles of engineering design and prototyping. Our engineering and prototyping team rapidly designs and tests one or more proof-of-concept prototypes in our on-site fabrication shop and testing labs.

### Total Solution Expertise

Clients of PCDWorks benefit from a great track record of bringing highly successful products to the market over the last 30 years. The large amount of collective manufacturing and commercialization expertise at PCDWorks ensures a quality design that meets the necessary cost and reliability needs of any project. Lastly, our network of affiliated companies provides additional support for any roles which fall outside the core practices of PCDWorks.

***"You solve problems that other people can't."***

*James Wardlaw,  
New Products Development Manager,  
Ingersoll Rand Company*

**Personnel:**

In twelve years, PCD has provided solutions to over 60 companies. Our multidisciplinary teams bring together an array of technology, science and business acumen.

**PCD management team:**

Donna Rainone, B.S., M. Arch  
Mike Rainone, B.S., M. Arch, I.D.S.A.  
Tom Crippen, B.S., M.S., Ph.D Mechanical Engineering, PE.  
Bert Sackett, M.S.E.E., I.E.E.E.  
Thao Hovanky, B.S.M.E, B.S.E.E  
Ted Plowman, B.S. M.S., Ph.D Biomedical Engineering  
Talbot Presley, B.S. Mathematics

**PCD associates:**

Diane Ray, B.S. Pulp and Paper Engineering, M.B.A.  
Michael Williams, M.D. Emergency Medicine

**PCD partners:**

Quadrant Technologies  
Peck and Hale  
ACT Technology Seed Fund  
Innovation Focus  
Partnerships for Innovation  
Venture2



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**PCD services:**

**Mechanical Engineering**

Mechanism design and simulations  
Materials selection  
Solid modeling  
Heat displacement designs  
Safety analysis  
Reliability assessment  
FEA analysis  
System FMEA  
Risk analysis  
Fault tree analysis  
FMEA

**Electrical Engineering**

Software and firmware design  
Electronics design  
Development platform selection  
Software architecture and design modeling  
EMI, RFI, FCC testing  
Schematic capture, layout and simulation  
Power and heat management

**Medical, Scientific and Mathematical Modeling**

Modeling real world physical systems  
Optical designs  
Pneumatic systems  
Fluidic systems  
Disposables design  
Motor design

**Proof of Concept Sessions**

Problem solving sessions  
Invention sessions  
Concept to prototype sessions  
Product development process training

**Project Management**

FDA submission and compliance  
Process training and consulting  
System integration  
Process automation

**Product Prototyping**

CNC rapid prototyping  
Vacuum forming  
Metal casting  
Mold making  
Investment Casting

**Technology Research**

Technology database development  
Technology scanning  
Focused technology research

**Consulting**

New product development ideation  
Technology landscape characterization  
Systems design

*Product Concept Development is located on a pine covered 25 acre campus midway between Dallas and Houston, near Palestine, Texas. Facilities include laboratories, prototype and model shops, a guest house, fitness center and offices. We frequently host ideation sessions for large groups. A typical "mechanism session" designed to generate multiple solutions to a technical problem consists of 2-3 days of brainstorming and 2-3 days of hands-on prototype development in the shops. In this way, we can quickly create multiple solutions to the problems and immediately design, fabricate and test to prove the concepts. Most often when the group goes home, they go home with solutions in hand.*



**Our Campus**

20,000 square feet of conference, office, laboratory, and guest quarters, located on 25 acres in the East Texas Forest.

PRODUCT CONCEPT DEVELOPMENT, INC.

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