



BIERNATH CONSULTING, INC.

INVIGORATE YOUR PRODUCTS THROUGH CREATIVE
USE OF CUTTING-EDGE AI, SCIENCE, AND ENGINEERING

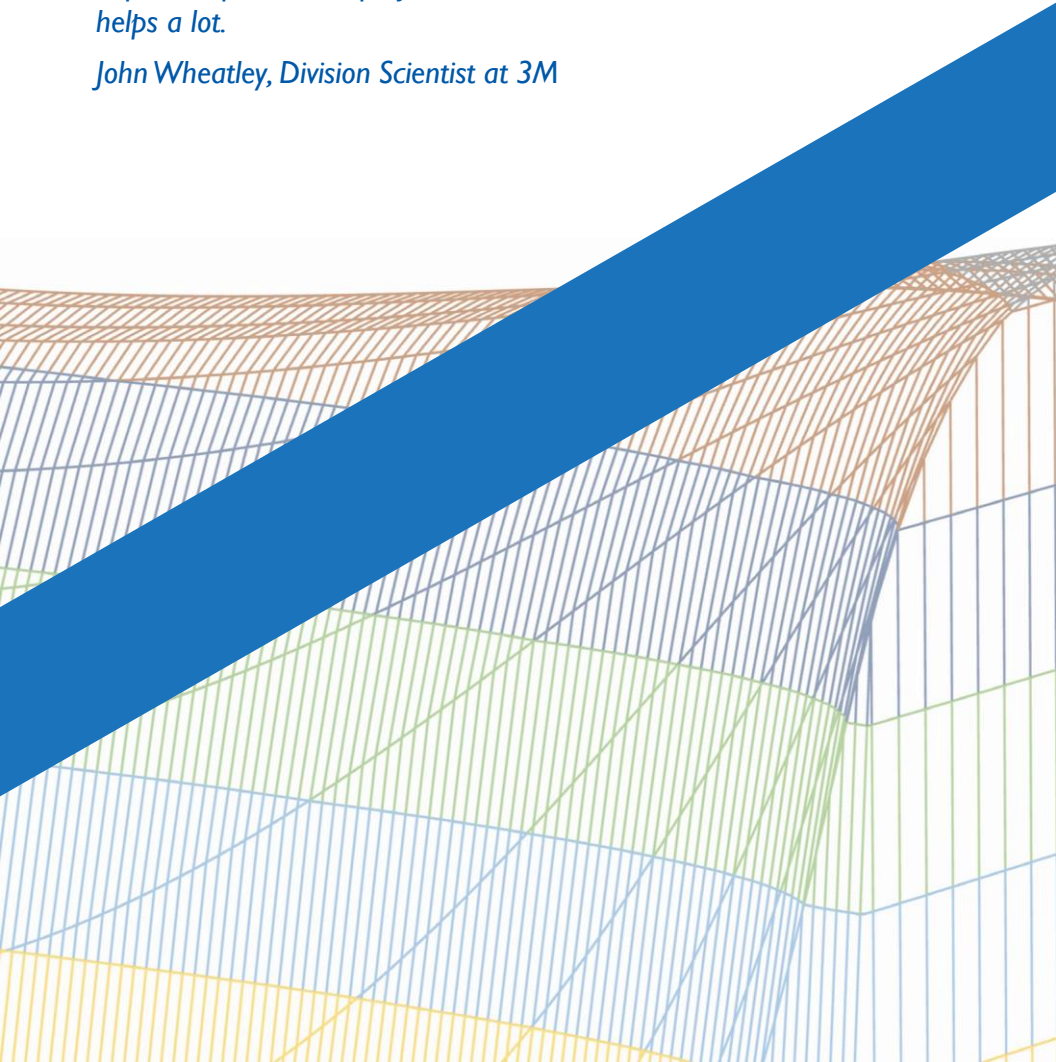


Rolf is one of best innovators in 3M. His ideas can be seen now in different areas in the company, including chemical formulations, optical systems, and electronic software. One person can do a lot of inventing at 3M during their career, but their inventions would be usually in one narrow area. It's rare that someone can deliver great contributions across many divisions and markets.

Rolf has a very unique skill set. He has a chemical engineering PhD. Also, he is very good at physics, optical design, electronics and software. At 3M, we can never separate the material from process and applications. He is the right person to build the bridge between them.

Rolf is a good leader and a valuable team member too. He led an important part of our project. He contributes a lot; he shares a lot; he helps a lot.

John Wheatley, Division Scientist at 3M



INNOVATE → PROFIT → GROW

Innovation shapes companies,
helping some transcend to
extraordinary success.
You know who they are,
they set the bar.

Is that your business? or your competitors?
Either way, you want to grow.

Biernath Consulting is your insightful problem solver
seeing things from new perspectives,
innovating and inventing pathways
to business growth.

**Whether it's adding a new product line or
reinventing your existing products and services,
you'll get the clarity, understanding, and strategic
insight that enables you to develop meaningful
new product categories with high growth and
profit potential that can help you and your
customers thrive.**

Biernath Consulting creates new science and engineering business opportunities that ensure future business growth and prosperity for a range of companies and organizations.

Along with exceptional communication skills, clients receive incomparable expertise in customer need identification and problem definition, plus elegant solutions in a broad range of scientific disciplines.

CORE STRENGTHS:

Science & Engineering Innovation:

Generative AI, Systems, Concept Development and Commercialization, Strategic Product Platforms and Portfolios

Lean Startup & Design Thinking:

Innovation Disciplines, Rapid and Iterative Prototyping & Learning

Patents & Competitive Analysis:

Patent Strategy, Patentability Assessment, Design-Arounds, Claim Strategy, Product Teardowns/Reverse Engineering

Expert Witness:

Patents, Civil

DISCIPLINES and INDUSTRIES:

Polymer Science and Engineering:

Polymers, Thermosets, Engineering Polymers, Epoxies, Specialty Films, Adhesives, Silicones, Multilayer Films, Microreplicated Films, 3D Printing/Additive Manufacturing

Chemical Engineering, Chemicals, and Materials:

Formulation, Coatings & Coating Stresses, Nanomaterials, Characterization, Fracture Mechanics, Diffusion, Electrophoretics, PDLC

Optics:

Lighting, Daylighting, Displays, LEDs, Lasers, Optical Films, Window Films, LCD Displays, Projection Displays, Optical Metrology and Characterization, Near-IR Imaging, Retroreflective Films, Birefringent Optics and Films, IR Mirror Films

AMONG ROLF BIERNATH'S 50+ PATENTED INVENTIONS:

- Decorative camouflage materials that are visibly opaque, but still allow IR cameras to detect if you are nodding off at the wheel
- IoT and IIoT devices and systems incorporating physics models to predict performance and product lifespans.
- An invisible, yet machine readable coding system that helps self-driving cars accurately read signs on the road.
- Silicone rubber replacement material that was used to seal nearly every hard disk drive made after 1995. This stamped gasket replacement eliminated tons of landfill before “green” was cool.
- Roll-to-Roll micro-fluidic circuits that are used in COVID and other viral and bacterial test kits.
- Outdoor viewable TV and digital kiosk that uses the daylight around it to illuminate the LCD display.
- E-paper displays and traffic signage.
- Electronic circuit boards with edges that shuffle together like a deck of cards, enabling ultra-high-speed connections.
- Lawnmower blades with quickly replaceable cutting edges.
- Projection system that casts live images on products on the shelf above the projector.

See details at <https://linkedin.com/in/rolfbiernath>.

Rolf Biernath has excellent problem solving and analytic skills. Rolf's ability to master an extremely diverse range of technologies is impressive. Further he has impressed me several times with his ability to establish proper metrology methodology and to use this data and fundamental understanding to successfully develop products and technologies that meet stringent customer needs.

—Ray Johnston, Staff Scientist at 3M Display and Graphics



Dr. Rolf Biernath, PhD

Dr. Rolf Biernath, PhD is a multi-faceted science and engineering consultant who helps companies create their future, with a focus on high growth and profit potential. He is a proven strategic, tactical technical leader whose expertise spans scientific development to

technology system integration. He drives rapid, multidisciplinary development and works with customers, suppliers, and integrators to bring innovations to market.

“I get excited to see new creations solve real problems, making the world a better place. My job is to bring about improvement through creative solutions. I thrive on bringing value into the world.”

Three-dimensional: Technical Depth, Program Leadership Strength, and Business Sensibility.

Awards:

First Place - TechStars Twin Cities Startup Weekend

3M Circle of Technical Excellence and Innovation Award (8 times over career)

University of California, Berkeley
Ph.D., Chemical Engineering

Georgia Institute of Technology
B. ChE with High Honors, Chemical Engineering

- Clarify Complex Customer Needs
- Discover New Opportunities for Existing Products
- Innovate Highly Profitable New Product Platforms
- Deliver Market-Ready Products



Innovate your way to business growth.

Dr. Rolf Biernath has consistently been able to come up with elegant solutions to very difficult technical problems. He is very knowledgeable about the competitive patent landscape and is thorough about developing patent strategies to protect inventions. Rolf has also demonstrated his ability and commitment to follow through with the development work to deliver solutions that meet business objectives.

Rolf is a very creative problem solver. He thinks "outside the box" and understands a very broad spectrum of technologies and sciences. His solutions often integrate software, electronics, and material science.

Vincent W. King, 3M Business & Technology Strategist

INNOVATE → PROFIT → GROW

Dr. Biernath's goal is to help companies create their future.

“Together we can forge a strong path toward innovation and growth.”

Ask about a free exploratory session to discover innovative business opportunities to help your business flourish.



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PRODUCT INNOVATION THROUGH
CREATIVE SCIENCE & ENGINEERING

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