

Imagine a World, where...

You're **Leading Your Industry**, not following, reacting, or fire fighting.

Your offerings are so innovative customers are willing to **Pay More** for them.

You generate **6X** more big ideas when you brainstorm or problem solve.

You painlessly create both incremental CORE ideas & **Disruptive Leaps**.

Your culture has **Alignment** on innovation strategy & across departments.

Your system enables testing of ideas in **Seconds, Minutes, Hours**.

Your system enables implementing of up to **12 ideas/employee/year**.

Your system enables writing of provisional **Patents in about an hour**.

You can take ideas to market **6X Faster** with **30 to 80% Less Risk**.

Or as one CEO said "Work is fun again!"



INNOVATION
ENGINEERING®

INNOVATION COLLEGE

Where You Learn How To

Apply System Thinking To Innovation

ENABLING YOU TO CHANGE YOUR WORLD -
YOUR LIFE, YOUR CAREER, AND
YOUR ORGANIZATION



INNOVATION
ENGINEERING®
INSTITUTE

Founded 2009

Mission: To Change The World by enabling innovation
by everyone, everywhere, every day, resulting in
increased speed to market (up to 6X) & decreased risk (30 to 80%).

Innovation is now a way of thinking,
not simply a “project.”

I embrace failure - because it means
I’m pushing the envelope and I’m
really learning.

I focus on doing the right thing, even
when it’s not popular or easy.

“Can’t” is replaced with “let’s
figure it out.”

I have confidence that I can find a
way or make a way to make things
not just better, but incredible!

Doing something different gets me
excited, when it used to make me
tired and anxious.

WELCOME TO THE INNOVATION ENGINEERING MOVEMENT

Innovation Engineering is a curriculum, a tool set, and a mindset that ENABLES Innovation by Everyone, Everywhere, Everyday Resulting in Increased Speed to Market and Decreased Risk.

Innovation Engineering systems are designed to ENABLE a culture where everyone works together on innovation.

Innovation Engineering enables leaders to thrive in the new reality of faster product life cycles, increased competition, rapidly changing technology, and digital savvy customers.



The organizations involved have over
\$11.4 Billion
worth of innovations in active
development.



Since 2009 it’s taught an estimated
35,000+ people
who work at small companies, global
corporations, non profits, universities &
governments from 22 countries.



It’s taught by over
20 universities / colleges



After watching the 100 short videos, you arrive at Innovation College ready to roll up your sleeves and experience what it's like to lead a high performance innovation team - creating, communicating, and commercializing innovations and practicing it over and over.

Why the name?

Innovation Engineering was chosen as the name for this movement as it precisely defines our purpose, mindset, and how we work.

Innovation is about ideas that are meaningfully unique. It's about productive imagination. It's about change, ideas, improvement, and working smarter. Creativity is the creation of the new and novel. Innovation is about unique ideas that accomplish a meaningful purpose. The purpose can be for igniting social change, changing how we work with our co-workers, or simply making a difference in people's lives with a more effective product or service.

Engineering is about applying innovation to the real world. It's about discipline, system reliability, documentation, experimentation, problem solving, and making decisions based on factual data. The Chemist studies the compositions, properties, and activity of organic and inorganic substances. The Chemical Engineer applies the Chemist's discoveries in the real world of factories and products.

WHAT IS INNOVATION ENGINEERING?

To win in today's marketplace a "reactive" mindset must be replaced with leadership, and leadership by definition is about proactively leading innovations in strategy, customer offerings, and how we work together to accomplish our organizational mission.

Innovation Engineering is about enabling people to take action on ideas by providing them the education, tools, and leadership they need to turn their ideas into reality.

The Innovation College leadership education program teaches you the 48 Skills that make up the Innovation Engineering field of study. You will learn in 5 days the core content taught on university campuses during 4 undergraduate courses or 2 graduate school courses.

Importantly, 93% of the time you invest becoming an Innovation Engineering Black Belt is on real world projects for your organization. Front line coaching support, advanced software tools, and a global community for support, guarantee your success in applying the learning to your world.

Mastery Is Guaranteed

The patent pending Cycles to Mastery teaching methodology guarantees that everyone who is willing can master the curriculum. Here's what students on campus say about it:

How is this better? Less stress. Don't really learn anything in other classrooms, whereas this allows the information to stick in your head so you don't forget it. The applying is the important part that makes it stick. No more information regurgitation.

Failing isn't a bad thing here. You lose your fear of failing here, because it's okay.

Because you are doing live grading, it's like you (the instructors) are working with us, not against us.

I've always struggled with regular lectures, and I always wondered if I was really learning, but with this I feel like I am actually learning and building skills.

Compared to old classes, here you are learning a new way to think, not just the content. Working on changing the mind instead of cramming it with information.



When you complete the 5 day Innovation College course you're certified as an Innovation Engineering Blue Belt - recognizing your advanced innovation knowledge. To achieve mastery, as indicated by Innovation Engineering Black Belt Certification, one-on-one mentoring teaches you how to apply the knowledge to your work through Application and Experience Courses.

CERTIFICATIONS

Innovation Engineering BLUE BELT - Leadership Education

At the end of the Innovation College week, participants are certified as Innovation Engineering Blue Belts. This course is optimized for managers who will be leading innovation projects and innovation portfolios within their organization.

Innovation Engineering Blue Belt certification provides business leaders with a deep understanding of system thinking and the 48 skills that make up Innovation Engineering. It requires about 7 days of total time. Participants first experience the 48 Skills and their sub skills through about 100 Digital Classes (about 7 minutes each) that are watched prior to attending the 5 day Innovation Engineering College session where hands on Lab Classes make the video learning real and tangible. Summative experience assignments help executives "connect the dots" between enabling skills and the overall system.

Innovation Engineering BLACK BELT - Mastery Education

Innovation Engineering Black Belt training is optimized for practitioners who will be leading and coaching very important innovation projects as well as teaching others. It's also for those who will be leading the design and never-ending innovation of internal systems for innovation.

Innovation Engineering Black Belt certification takes the learning of Innovation Engineering Blue Belt and raises it to a level of true mastery. The program provides participants with the courage, confidence, and capability to both lead projects and teach the new mindset through such programs as Innovation Engineering Green Belt.

Mastery skill level is developed and documented through: a) a grade of 100% on all Innovation College assignments, b) 100% success with 17 Application & Experience assignments where candidates lead projects for their company and, c) A written testimonial of endorsement from their Innovation Engineering Black Belt Mentor that they have demonstrated Innovation Engineering Mastery in their work and mindset.

One on one Innovation Engineering Black Belt Mentoring is provided either remotely or on-site. With on-site support Black Belt certification is reached in about 6 months. With remote support it may take 12 months to complete.

“ Thinking creatively, attacking death threats, Fail FAST Fail CHEAP and mining are now part of my way of thinking. ”

“ Innovation Engineering gives us a system to do the things we know are important - but didn't do - because they weren't urgent and we didn't know how. ”



Innovation College participants come from all types of organizations - large, small, for profit, non profit, universities, and government. They also come from all levels - from CEOs that believe in "leading from the front" to managers with a passion for learning how to work smarter.

WHAT'S IN IT FOR YOU?

Reasons why people attend Innovation College

There are a number of reasons why people come to Innovation College. Below are just a few that we hear:

- I was just put in charge of innovation and I don't know where to start.
- I'm on an accelerated leadership track in my company.
- I'm an innovator naturally. I love learning about the cutting edge.
- Innovation is a new key driver in our business, and I need to understand how to do it.
- I'm tired of doing the same old stuff. I need a jolt.
- I'm a leader in my organization and we need to change, but how am I supposed to lead something I myself don't have a handle on?
- Innovation is on my performance criteria.
- Innovation is a ton of FUN!

Innovation College will enable you to transform your innovation projects from random gambles to reliable investments.

You will gain the courage, confidence, and capability to take advantage of the tremendous opportunities created by the internet, globalization, and rapid change.

Studying Innovation Engineering teaches you key elements of the engineering mindset: curiosity, discipline, and how to think deeper.

It teaches you how to use writing and math as a tools for thinking deeper about new ideas.

It teaches you the power of stimulus mining, collaboration, experimentation, and systems thinking as methods for problem solving existing challenges and creating new ideas that proactively lead your organization, industry, and career.

As a graduate of Innovation College you be a member of a world wide community of change agents. It's a community dedicated to helping one another enable their dreams. The Brain Brew Blog connects you in an instant to other Innovation Engineering Blue Belts and Black Belts. Regular Brain Brew Webinars keep you up to date on the latest best practices. An annual global conference brings the community together to share learning.

When you complete Innovation College you receive 6 CEU (continuing education units) from the University of Maine, the founding academic home of the Innovation Engineering Institute.





You experience running professional grade CREATE Sessions, Strategy Sessions and Problem-Solving Sessions.



InnovationEngineeringLabs.com is the System Software that gives you the ability to put the skills to work quickly. It's where you watch videos, submit assignments for feedback, and after the program, run innovation for your organization.

WHAT'S IN IT FOR YOUR ORGANIZATION?

When an organization truly implements all the facets of Innovation Engineering, a number of clear signs of change emerge:

- **Your Offerings are More Meaningfully Unique.** And when they are Meaningfully Unique, customers are willing to pay more for them.
- **Your Innovation Pipeline Expands.** Your organization has a pipeline of ideas for growing Net Profit Margin every year.
- **Speed Improves 6X.** You take ideas to market up to 6X faster because you're aligned and have systems that support speed.
- **Risk Decreases 30 to 80%.** Your innovations have a reduced risk of failure for new ideas by 30 to 80% because you identify and overcome risks BEFORE you invest.
- **Research Drives Speed & Cost Reduction.** You can do innovation research 20X Faster & at 90% lower cost.

- **Development Success.** You have improved your development success rate by up to 250%.
- **ALL Your Employees are Innovating.** You are implementing up to 12 ideas per employee per year
- **Employees to Have Their Name on a Patent.** Patents and intellectual property are part of the culture. With Ideas to Patents, a provisional patent application can be written by nearly anyone in about an hour.

When the leadership enables the employees with strategic clarity, education, and system support, a transformation of mindset is seen in the culture in just 6 months.

To be specific, it's not uncommon to see statistically significant increases among employees on optimism, courage, pride of work. And as a result, everyone wins.

When Black Belts run Innovation Projects they are

worth 28X more

than those with a basic understanding of innovation.

Black Belts lead or coach, on average,

24X more projects

than people with a basic understanding of innovation.



Innovation Engineering Labs is the sustaining software that helps you make all the concepts you learn actionable for yourself and for your company. Whether you want to refresh your knowledge in the video library classroom, increase the speed and value of your project by running it through the innovation pipeline, or just by doing rapid research so you can Fail Fast and Fail Cheap, Labs makes acting on innovation easy.

INNOVATIONENGINEERINGLABS.COM

“IELabs” is the system software that makes it fast and easy for you to apply all the skills from Innovation Engineering to your work. Skills that, when applied, will help you create, communicate, and commercialize meaningfully unique ideas that you’ll get to market quickly.

“
*The create,
communicate
and
commercialize
system of
thinking is real
proof that by
using different
types of
stimulus, I can
“create”
meaningfully
unique ideas to
real problems
that people have.*
”



Classroom is the interactive center where you learn and have the tools for teaching others:

- **A Digital Library** of 100+ videos teach you the sub-skills that make up the 48 innovation skills. A library of important videos from 21 volumes of the Dr. W. Edwards Deming Library and “How To” videos make it easy to lead and teach others.
- **The Cycles to Mastery** system ignites never ending learning. It makes it easy to submit innovation assignments, get feedback, get smarter, and resubmit till you achieve mastery.
- **A Workshops System** makes it easy to run Innovation Engineering Workshops, Collaboration, Research, Patent ROI Colleges, and Innovation Engineering Green Belt Certifications for your colleagues.



Innovation Pipeline lets you not just manage your innovations, but actually make them better. In fact, using the Innovation Engineering approach in combination with this software results in ideas growing 28% in value during development. The speed and growth come from 3 key alignments:

- **Strategic Alignment** focused on what is VERY IMPORTANT for your short and long term future.
- **Departmental Alignment** ENABLES all employees across all departments by defining innovation checklists that detail WHAT, WHY, and HOW for each milestone, rather than “control” systems that only list WHAT to do. Separate Core and Leap checklists increase speed and decrease risk for both.
- **Team Alignment** makes meetings more productive. At weekly project meetings opinions and politics are replaced with disciplined cycles of Plan, Do, Study, Act learning. The software keeps projects focused on project Death Threats and development milestones. The result is meetings are more productive and engaging, and projects move faster. Most important of all, paper work is vaporized because as employees “do the work”, they are creating the documentation needed by the “system.”

Tools & Memory Bank

Amplifying your impact.



Tools & Memory Bank is where you'll find the tools you need and where you can add your own customized tools.

- **Over 70 tools for Creating, Communicating, Commercializing, and Problem Solving**, all proven reliable, are available. They are the actual tools used in real world projects for the likes of Procter & Gamble, Nike, Walt Disney, American Express, Ford, Hewlett Packard, and others. This is the REAL STUFF that Really Works!
- **Clear Documentation of "How To"** use tools - minute by minute when appropriate - makes it easy to lead your teams in use of the tools. No memorization required. Documentation grows your confidence and capability.
- **Smart Tools** like the **Sales Forecasting Calculator** estimates sales, **New Market GPS** explores the financial possibilities of new markets, and **TRIZ Interactive** and **EBSCO Host** provide smart stimulus for bold ideas.

Collaboration Cafe

The easy way to multiply your innovation capacity.



Collaboration Cafe confronts the psychological barriers to collaboration. It unleashes the creative potential of your organization. It turns ordinary people into capable and confident innovators. It's a combination human + software system that helps create a never ending stream of innovations.

- *Education* teaches everyone how to collaborate and use the tools to create fresh ideas.
- *Smart Systems Confront Psychology Issues*: **a) Blue Card Link** to Requests provides focus, **b) Weekly Stimulus** sparks fresh ideas, **c) Private & Public Response** protects egos, **d) Easy Feedback**, processing, and quantification of impacts drives sustainability, and **e) Collaboration Cafe Smart Phone App** makes it super easy for everyone to participate with text, pictures, or front line video.

Merwyn Rapid Research

The smart way to build innovation courage.



Merwyn Rapid Research is a new mindset, tool set, and system that transforms quantitative research from a "judge and jury" to an invaluable tool for enabling never ending improvement of your ideas. It does this through artificial intelligence research and sales forecasting systems, enabling you to get factual feedback in seconds, minutes, and hours.

- *In micro seconds* you can get feedback on your ideas with **Idea Coach**, an artificial intelligence application that "reads" your idea and gives you advice. Research finds it can improve ideas up to 40%.
- *In minutes*, you can use **Idea Doubling or Math Doubling** to get fresh ideas and insights from internal and/or external experts. You can use **Idea Scan** to get team and/or management feedback on your concept's potential using validated evaluation standards and advanced sales forecasting models.
- *In hours* you can run **Insight Mining** surveys or customer **Rapid Tests** that include predictive data and video capture for deep qualitative insight.

Patent ROI

The sure way to turn your ideas into real wealth.



Patent ROI. Patents are made painless and easy - easy to find free ideas, easy to buy patents cheap, and easy to write in about an hour.

- You can *leverage* the world's largest and most effective idea source through **Invention Blueprints**, a 100% up to date mirror image of the US patent database.
- *Be the first to file patents* by using the **Ideas to Patent** system to write a provisional patent on your innovation in about an hour. (And yes, we used the Ideas to Patent system to write our patent for Ideas to Patent!)
- *Understand the true value* of your patent by easily using the **Patent Assets** application to translate your inventions into commercial Business Opportunities, complete with sales forecasts, and calculate fair market royalty valuations.

A rigorous, quantifiable process for inventing breakthrough ideas. Unlike many creative gurus in the corporate marketplace, Doug Hall makes it imperative that his innovation systems are quantified every step of the way. A University of Oklahoma study found that the stimulus method cranked out more than 1,000 percent more new ideas than traditional brainstorming methods and generated 558 percent more quality ideas; that is, ideas with above average marketplace potential."
Todd Datz
Features Editor
CIO Magazine"



Live assignments let you apply the skills and receive instant feedback from Innovation Engineering Institute Black Belt instructors who teach University Professors how to teach.



Your connection with your fellow classmates continues well after Innovation College as you become part of the Brain Brew Blog, a blog exclusively for Innovation College graduates. Blue and Black Belts connect there to share ideas, struggles, and satires as they practice Innovation Engineering every day.

THE CYCLES TO MASTERY EDUCATION SYSTEM

**“
I had no idea that
innovation had
been made into
such a reliable
science.
”**

Pre-Work: Digital Classes

Prior to attending Innovation College students watch a set of about 100 7 minute videos. Each video covers one of the sub-skills that make up the Innovation Engineering body of knowledge. The videos provide a foundation of understanding and a very easy way to revisit and remind yourself on key concepts when you are working on applying Innovation Engineering with teams in your organization. The videos are continuously updated as new learning is uncovered in what matters most and how to learn best. A special alert system allows students to easily identify updates.

Innovation College

Innovation College is a very intensive five day experience that fully immerses you in the mindset and principles associated with applying system thinking to strategy, innovation, and how we work together as an organization. 90%+ of the week is spent on hands-on Lab classes where you see, feel, and experience the skills and sub-skills you learned through the Digital Classes. It's through this first person experience that the mindset and principles become real. This 5 day format is grounded in what Phillip Crosby learned with his Quality College program during the 1980s.

Mastery through Experience

Black Belt Candidates take their Innovation College experience to a higher level through Application and Experience assignments that are 100% connected to their actual work. Innovation Engineering Black Belt coaching is provided either remotely or on-site. Historically, with on-site support, certification is reached in about 6 months. With remote support it usually takes up to 12 months.



Pre-work

100+ digital videos to learn the concepts of all the 48 skills



Innovation College

5 days of interactive labs to understand the concepts & tools



Application Experience

Applying skills to real work with coaching

Innovation Engineering Labs System Software is used throughout.



Mind Mapping, along with dozens of other proven and reliable methods for creating ideas and problem solving, are taught during the CREATE course.

CURRICULUM

Each day of Innovation Engineering College starts at 7:30am with breakfast and an 8:00am start time. Lunch is served around 12:30pm and dinner at 7:00pm. On the last day the program ends at 5:00pm.

DAY 1: CREATE

This is an immersion in how to think quicker, smarter, and more creatively. It's an amazingly structured system that enables everyone to create fresh ideas and problem solve. Current skills and sub-skills include:

Skill 1 Meaningful Uniqueness: How to Identifying Meaningfully Uniqueness, How to create Meaningful Uniqueness Clarity

Skill 2 Stimulus & Diversity: Trust in the power of Stimulus, Trust in the power of Diversity, How to use Mind Mapping and Osborn Brainstorming

Skill 3 Exploring Stimulus: What makes Great Stimulus, How to gather the 6 Types of Stimulus, How to Share Stimulus

Skill 4 CREATE Sessions 1.0 - Stimulus Processing: How to prepare for and run a CREATE Session, Key stimulus processing exercises like Checklists, Matrices and Idea Engineering

Skill 5 Unrelated Stimulus: The Power of Unrelated Stimulus and exercises to help you leverage it like Lateral thinking, PO, and Take over Time

Skill 6 Patent Mining (Patents 1.0): Why Patent Mining is useful, How to Read a Patent, How to Search for Patents, Doing Patent Mining

Skill 7 Insight Mining, Qualitative: Social Media, Collaboration Cafe, Quantitative - Problem & Idea Starter Surveys, Doing Insight Mining

Skill 8 Market Mining: Fundamentals of Market Mining, Doing Market Mining

Skill 9 Advanced Create Methods: Analogy Exercises and Stimulating the Subconscious, How to use the Theory of Inventive Problem Solving (Triz)

Skill 10 Future Mining: How to Future Mine - Mega Shifts and Scenarios, Doing Future Mining

Skill 11 Wisdom Mining: How to Search Academic Articles, Doing Wisdom Mining

Skill 12 Professional Grade CREATE or PROBLEM SOLVING Session: Innovation Team Pre-Assessment & Session Preparation, How to Facilitate a Session, How to run an InterAct Session with customers or stakeholders

“ Thinking creatively, attacking death threats, Fail FAST Fail CHEAP and stimulus mining are now part of my way of thinking. ”



Communication is often overlooked in innovation, when in fact it's the key to connecting your innovative idea to management and stakeholders, those who will be helping you develop it and those end users who need it. Innovation Engineering gives you fact based principles based on a research database of over 20,000 innovations and a common communication language that's concise, clear, and motivating.

**“
Innovation
Engineering
introduced us to
a new process of
innovation which
is very much
centered on
being customer
led and
providing
meaningful value
to our
customers.
”**

DAY 2: COMMUNICATE

This day is about learning to use writing as a system for thinking deeper about your ideas. It's about saying with clarity what your idea is and why anyone should care about the idea. It's been said that if everyone in an organization understood what this course teaches then wasted meetings and rework would be cut by 80%. Current skills and sub-skills include:

Skill 13 Blue Card Strategy Activation: What is a Blue Card and Why do Strategy Activation, How the Strategy Writing System works

Skill 14 Yellow Cards: What is a Yellow Card and Why use it?, Understanding the Parts of a Yellow Card - Customer, Problem, Promise, Proof, Price, Value, Name, Headline

Skill 15 Synergy of the Concept System: How to see the concept as a complete System, The Six Tensions inherent in great ideas

Skill 16 Meaningful Uniqueness: How to use Clarity, How be clear and focused in your message, How to communicate the Name and key Numbers

Skill 17 Feedback Systems: How to get Qualitative feedback and refine an InterAct session, How to get Quantitative feedback using Rapid Test

Skill 18 Smart Concept Decisions: Avoiding Tampering, How to Make Smart Decisions, Idealized Redesign Exercise, How to ensure your idea has Oomph

Skill 19 Patent Translation and Trademarks (Patent 2.0): How to do a Patent Translation from raw patent to yellow card, How Trademarks work

Skill 20 Advanced Benefit & Proof: Benefit Valves & Pumps, Umbrella & Emotional Benefits, How to use proof like Test Results, Pedigrees, Testimonials & Guarantees

Skill 21 Meaningful Marketing Messages: Meaningful versus Mindless Marketing, Free Form Writing to Ignite Diffusion

Skill 22 Professional Grade Marketing Piece: Crafting a Visual Prototype, Factual Wisdom on Increasing Writing Success

Skill 23 Real World Communications: Persuasive Writing Structure, Using it in the Real World

Skill 24 Proactive Selling Pitches: Understanding the Customer Mindset On Innovations, Using 5 Step Proactive Selling System, Crafting a great Oral Presentation



Innovation Engineering Institute Instructors give you live coaching and feedback...helping you achieve deep learning of the 48 skills. The Cycles to Mastery learning system is designed to replicate real world innovation. During the week you will fail, learn, and try again, and in the process really learn the content not simply "check the box" of the assignments.

DAY 3: COMMERCIALIZE

This day is a deep dive in turning ideas into reality. It involves learning how to use math as a system for thinking deeper about our ideas. Specifically it's about learning how to estimate with little information: expenses, sales forecast, cost savings and efficiency improvements. The course is also about learning how to use the Deming Cycle of Plan, Do, Study, Act as your project management system for developing ideas with increased speed and decreased risk.

Skill 25 Drive Out Fear: The Innovation Engineering Mindset and Plan, Do, Study, Act in Depth

Skill 26 Innovation Operating System: The Four Roles on an innovation project - Project Leader, Management Coach, Process Coach, and Team Members; A deep dive on the Project Leader Role, the Management Coach Role, and the Process Coach Role; Setting the plan for a project

Skill 27 Organizational Risk: Fermi Estimating: Fermi Fundamentals, Fermi Estimating, PDSA For Numbers, Organizational Risk Review

Skill 28 Organizational Risk: Cost & Price Estimating: Definitions and Principles of estimating, How to Estimate

Skill 29 Organizational Risk: Sales Forecasting: Fundamental Principles of Sales Forecasting, Four Woodlock model of forecasting

Skill 30 Organizational Risk: Ideas to Patents: What Can Be Patented, How to do Patent Writing

Skill 31 Market Risk: Development Phases: How to do a Looks-Like Prototype, How to do Test Recruiting

Skill 32 Technology Risk: Development Phases: How to do a Works-Like Prototype, How to do Product Testing

Skill 33 Simultaneous Engineering: How to build a Business Model, Optimizing the Whole, Letting Go of Ideas

Skill 34 Faster & Cheaper - Coaching Project Leader: Very Rapid PDSA Cycles, Problem Solving vs. Compromise, Systems for Building Speed

Skill 35 Confronting Reality - Coaching the Management Coach: PDSA - Setting the Plan, Blue Card Discipline, Management Coaching Honest and Helpful

Skill 36 Go No Go Development Decisions: Hold versus Fold - Personally & Professionally

“ Upon returning to work I think the biggest and most important task is to really help leadership see how this new mindset is the only choice we have to help us confront reality and move into the future as an innovative leader in our industry. ”



It's one thing to learn concepts and skills, it's another thing entirely to put all the pieces together. In this high performance experience, you live the high octane world of getting a challenge and creating a solution. You will live and breathe Fail FAST, Fail CHEAP through math, prototyping, and research. In 8 hours, you'll do what takes most companies months to do.

DAY 4: HIGH PERFORMANCE EXPERIENCE

“ I found I am more committed to and energized by innovation than I'd even thought was possible. ”

“ I cannot believe what we were able to accomplish today. Four days ago I would have said it was impossible to do what we've done. ”

“ Today it all came together for me. I get it. I love it. ”

The learning from the first three days is brought together in a full day experience where you are part of a high performance team facing a real world - and virtually impossible challenge. However, with your new systems mindset and tools you set your strategy, invent Leap ideas, do sales forecasts, use Rapid Research, Collaboration, and write Patents to achieve a level of success that leaves every student in amazement.

You start by translating the business challenge into a clear Blue Card that sets not only the vision but also the Narrative (why it's important), the Strategic Exclusions (what we don't want), Tactical Constraints (reality check), and Exploration areas (where to start).

The next step is deep stimulus mining. This is used to ignite Leap ideas.



The fresh ideas will be improved through a sequence of rapid research tests to reduce organizational, market, and technology risks.

You'll build fast prototypes to learn quickly what does and doesn't work, all the while revising your innovation, the math, and the killer Death Threats as you go using Innovation Engineering Labs to keep you on track and moving fast.

At the conclusion of the day, you'll pitch your solution and recommendation using the highly focused Procter & Gamble One Page Memo format.



The program is rooted in Dr. W. Edwards Deming's System of Profound Knowledge. Dr. Deming was the statistician that who taught the Japanese how to rebuild their economy after WWII and who helped ignite the Quality Movement of the 80's in the western world. He is one of the "founding fathers" of systems improvement programs such as Six Sigma, Total Quality Management and Lean.

DAY 5: SYSTEMS DRIVEN LEADERSHIP

The final day of Innovation College steps back from the details and looks at Innovation from a systems perspective. This course is a force multiplier for increasing innovation speed to market and decreasing risk. Current skills and sub-skills include:

Skill 37 Appreciation for a System: Understanding systems, Making the system visible

Skill 38 Knowledge about Variation: Special / Common Cause Errors, Root causes, Methods, Control Charts and People

Skill 39 Theory of Knowledge: Theory and Standards, Speed and Wisdom of Plan, Do, Study, Act

Skill 40 Psychology: Intrinsic versus Extrinsic Motivation, Willing and Able, Teaching the New Mindset

Skill 41 Leading Innovation Operating System Changes: Customized Check Lists for Specific Purposes, Leading the Process of Never Ending Improvement

Skill 42 Leading Collaboration Systems: Collaboration Theory and Challenges, Collaboration Success Principles

Skill 43 Leading Rapid Research Systems: Systems for Prototyping, Research Quality, Calibration Tables, Delphi

Skill 44: Leading Patent ROI Systems: Internal - Valuation, Alerts, Stacking, Managing, Marketing, External - Marketing, Valuation, Negotiation

Skill 45: Leading Structure & Strategy: Diffusion of Change, Strategy Activation, Coaching Strategy

Skill 46: Leading Define & Discover: Accelerator Projects, Confronting Reality with Numbers, Coaching Define and Discover

Skill 47: Leading Development: Confronting Reality, Leading for Speed, Useful Complexity / Simplicity, Coaching Development

Skill 48: Leading Go to Market: Helpful not Hurtful strategies, Faster Pivots, Coaching Go To Market

“ Knowing I really have a system problem and having a “system of thinking” that I can apply to my “system problem” is a game changer.

“ Thinking about the whole system instead of simply focusing on improving the parts is game changing.

5 WAYS TO APPLY THE NEW SYSTEMS APPROACH TO INNOVATION WITHOUT DISRUPTION TO YOUR COMPANY

There are three system and four subsystem options for getting started with Innovation Engineering WITHOUT CAUSING DISRUPTION TO THE ORGANIZATION. Each is designed to ignite momentum towards developing an eventual culture of innovation. This is accomplished by leveraging the science of the Diffusion of Innovations. In brief, it's about generating wins with those who are "willing." With their success, confidence builds, and a transformation begins across the culture.

THE THREE SYSTEM OPTIONS

A. Front End Innovation System: This system focuses the new mindset, capability, and tools on what is called the "fuzzy front end." The focus is on increasing both the quantity and quality of innovations that are entering the existing development system. It often starts with increasing the number of short term incremental Core innovations. It then moves to more disruptive Leap innovations. Finally, as the pipeline becomes filled, standards for what is the minimum acceptable sales potential are raised - resulting in bigger and bolder ideas entering development.



B. Parallel Leap Innovation System: With this system volunteers work in parallel to the existing company development system on disruptive Leap innovations. They leverage the wisdom of the existing culture through collaboration, rapid research, and transparent and disciplined project management systems that are focused on resolving market, technology, and organizational risks.



Working in parallel with the existing system honors the culture and the people within it. This approach has all the upsides of a "Skunk Works" approach without the cultural downside that can be created when Skunk Works are isolated, which this implies - in spoken or unspoken ways - that the existing people are stupid and slow, and the Skunk Works team are smart and fast.

With this approach a "Big Win" is usually achieved within 6 months. A Big Win is defined as achievement of a level of success that is bigger than the company would normally achieve. This level is different for each organization. It can mean multiple patent filings, a dozen cycles of Plan, Do, Study, Act quantitative research cycles with customers, rapid prototyping, and/or even actually taking an idea to market.

C. Innovation Culture Operating System: This is about enabling innovation by everyone, everywhere, everyday, resulting in increased speed to market and decreased risk.



It's about creating a shift of each person's mindset from "reactive" to "proactive." It's about moving from reactive "fire fighting" to focusing on getting ahead of customers and anticipating changes that can drive top line growth and operational excellence.

The process of implementation often starts with acceleration of a success through the Parallel Innovation Operating System detailed above. This success ignites diffusion of the mindset across the organization. Innovation Engineering Green Belt waves provide a structure of education and weekly cycles of collaboration on fresh ideas for addressing idea requests. The cultural shift is grown into a habit through the customization of the four Innovation Engineering subsystems. This includes customization of systems for training, collaboration, running rapid research, and writing and managing patents.

“
As a manager, you often feel like you should “have the answers” or simply know what to do, how to respond, how to fix something. Innovation Engineering opens up a whole world of opportunity and takes a weight off of your shoulders as a manager.

”

“
We need to learn how to win again. Since 2008 we have lost the belief that we can actually think, create and take action on our ideas.

”

THE FOUR SUBSYSTEM OPTIONS

SUBSYSTEMS for Enabling Increased Innovation Speed & Decreased Risk

Innovation Pipeline

The simple way to drive alignment.

- 1. Innovation Pipeline Subsystem (Project & Portfolio Management):** Innovation Pipeline enables increased innovation speed and decreased risk by creating alignment with strategy, across departments, and within teams. Alignment involves: 1.) Strategic Alignment of leadership's vision (Blue Cards) with how employees invest time, energy, and resources (Yellow Cards), 2.) Departmental Alignment where there is universal agreement and documentation of not only "What" needs to be done but importantly "Why" and "How" the organization turns innovations into reality, and 3.) Team Alignment that results in project management meetings that are more disciplined, focused on learning, and simply fun to be a part of.

Collaboration Cafe

The easy way to multiply your innovation capacity.

- 2. Collaboration Cafe Subsystem:** Collaboration Cafe enables increased innovation speed and decreased risk by confronting the psychological barriers to internal/external idea sharing. It addresses the challenges by 1) Making it easy to understand what we need ideas for and why through use of a simplified request system based on a strategic Blue Card, 2) Making it easy to create ideas through a stimulus-powered system that research finds results in 7X more ideas than classic brainstorming, 3) Making it easy to share ideas both publicly and confidentially through a simple cloud based application and smart phone application, 4) Making it easy to quantify, research, sort, and implement ideas through seamless linkage to Innovation Pipeline and Tools, and 5) Making it easy to collaborate outside the organization through an integrated Innovation Supply Chain system with four tiers of confidentiality.

Merwyn Rapid Research

The smart way to build innovation courage.

- 3. Merwyn Rapid Research Subsystem:** Merwyn Rapid Research enables increased innovation speed and decreased risk by reducing testing time and cost by 50% or more. This is the first system that provides specific and numeric feedback at a speed and cost that fits the fast moving needs of innovation teams. It's accomplished through a collection of patent pending applications that leverage artificial intelligence systems and advanced sales forecasting algorithms that provide risk adjusted forecasts of sales potential. Tools are split between those that enhance the effectiveness and intelligence of internal feedback and those that drive increased speed and reduced cost from external research with current customers and prospects.

Patent ROI

The sure way to turn your ideas into real wealth.

- 4. Patent ROI:** Patent ROI enables increased innovation speed and decreased risk by making it EASY to Find, Filter and File Patents for competitive advantage. It does this in 3 parts. **Part 1 - Educate:** It starts with education through a one day Patent College course designed to provide the functional knowledge required to make patents a tool for competitive advantage. **Part 2 - Find & Filter:** The *Innovation Blueprints* tool is the world's first database of US Patents that has been designed for business people. It includes a database that 1) makes it easy to find FREE public domain patents to help you ignite bigger, bolder ideas, 2) makes it easy to acquire Flea Market patents at low cost, and 3) identifies pending applications that makes it easy to identify technology trends. **Part 3 - Fast File & Value:** The *Ideas to Patents* application makes patent filing easy - anyone can write a provisional patent application in about an hour. In today's "first to file" world, where the first organization to file the patent gets it, speed of filing matters. The *Patent Assets* application makes it easy to identify the commercial business value and fair market royalty value of every patent in your portfolio.

INSTRUCTORS



"Hall is a damn good storyteller. But, speaking as an engineer-business analyst, he's credible because he supports his ideas with a ton of VERY HARD Data."

Tom Peters

Doug Hall

Innovation Engineering Founder

Doug is the founder and CEO of the Eureka! Ranch and the Innovation Engineering Institute. He is a hands on innovation practitioner, quantitative researcher, educator and author whose life's work is applying system thinking to innovation. He is a chemical engineer by education who rose to the rank of Master Marketing Inventor at Procter & Gamble – inventing and shipping a record nine innovations in 12 months by applying system thinking to innovation strategy and execution.

Doug is the best selling author of six books with a seventh in process. He has starred in two network television series and co-hosted a national radio program. He wrote and performed North Pole Tenderfoot, a one man play on his adventure recreating Admiral Peary's last dash to the North Pole.

For his pioneering work in applying system thinking to Innovation, Doug was awarded an Honorary Doctorate in Engineering from the University of Maine and a Doctor of Laws from the University of Prince Edward Island. Beware. rest before you attend Innovation College with Doug as he has never ending energy. Despite his crazy schedule he views teaching Innovation College as his most important priority.

Maggie Pfeifer

Director of Innovation Engineering Education

Maggie Pfeifer is the Innovation Engineering Director of Education at the Eureka! Ranch. Maggie manages the Innovation Engineering Black Belt program and the system for never ending improvement of the curriculum. She's taught and coached Innovation Engineering to tens of thousands of people around the world. Her calm demeanor and easy-going attitude make her the perfect coach and teacher. When Maggie's coaching, you success is guaranteed. She is a Miami University graduate, who is a true entrepreneur at heart, successfully building and running her own business, Reborn By Maggie, which has been recognized by many magazines including Martha Stewart's Real Simple.



James Beaupre, Ph.D.

Academic Lead

James holds a PhD in Chemical Engineering. He leads course design and relationships with proliferation of Innovation Engineering among higher education across the US and the world. He helped pilot the Innovation Engineering curriculum and continues to advocate and adapt for the academic community. He both supports Innovation Engineering instructors as they teach the courses and teaches undergraduate and graduate courses at the University of Maine. James helps with grading either in person or remotely at Innovation College. Listen and learn from his advice - he really knows what he's talking about.



Brad Hall

Assistant Brand Manager of Education and Graduate Student

Brad graduated with a degree in Civil Engineering and minors in Innovation Engineering and Math from the University of Maine. He leads the development and refinement of the instructor feedback system and helps with curriculum design from a student's perspective in particular. In addition, he is pursuing a Masters in Education with a goal of a PhD focused on new ways of more effectively teaching at universities. Brad has graded more assignments by executives than anyone on earth. When you get frustrated or don't know what to do, ask him for help.



WHAT EXECUTIVE EDUCATION STUDENTS ARE SAYING

In my own words I would say the learning over the course of the week was a message of “never stop moving” and how building your confidence is the “secret sauce” to keep you in motion.

As a manager, you often feel like you should “have the answers” or simply know what to do, how to respond, how to fix something. **Innovation Engineering opens up a whole world of opportunity and takes a weight off of your shoulders as a manager.** Not only is it okay, but it will make me, my employees, and my company more successful if I stop throwing out random half-baked solutions. Instead, look at the situation from beginning to end and build my confidence in what the problem is and who has the problem before I begin trying to find solutions. In short, make sure I have a problem and that I have a customer with that problem before I jump into making promises and working to prove I can fulfill those promises. Said another way, stop wasting time and money.

What I found most interesting was how easy it is to look at breakdowns and recognize that I am almost always dealing with a

system problem and not an employee problem. **Knowing I really have a system problem and having a “system of thinking” that I can apply to my “system problem” is a game changer.** This way of thinking has the potential to change the future of our company with the added benefit of letting me know I don't have to keep trying to fix people. Our people really want to do a good job, but we just need to give them systems that will allow them to be successful.

The create, communicate, and commercialize system of thinking is real proof that by using different types of stimulus, I can “create” meaningfully unique ideas to problems that real people have. Then once I have created a meaningfully unique idea, I can overcome my fears and build my confidence in the concept by taking small fail fast fail cheap steps, clearing the path to confidently move into discovery with increased odds of success.

The thing I learned about myself was that I have a habit of thinking “I know”. I never look around to see if what I think is a solution is the best solution. I never look around or ask or inquire if there is something better or if something better could be imagined. **Using stimulus mining opened an endless world of possibilities up to me.**

Knowing I can use insight or market mining to really listen and think deeper about what customers or employees are saying, or future mining to look ahead and find

ways to be meaningfully unique “ahead of the game” is powerful, mentally stimulating and a lot of fun!

I found I am more committed to, and energized by, innovation than I'd even thought. I've seen the worst of many companies in my experience. And the world's only getting tougher and further driving the need for radically improved innovation. Fortunately, for those wise enough to jump in, IE can make a huge difference.

I have learned the power and positive energy that builds from doing things that matter and from applying IE to solving real problems and I am being more intentional about encouraging, acknowledging, and training the staff who demonstrate an interest and willingness to be on the front lines with IE. The fundamental premise of taking the willing and making them able is easy to forget or underestimate its significance. I have learned not to do that.

I learned that I cannot work another way, despite my adaptability. I know now what is possible, so I will work towards that for the rest of my career. I have found the entire IE experience life changing in so many ways. Every day I find I am using something from the system. It is greatly encouraging for me when my team uses the methods and goes beyond just spouting the words.

HISTORY



Written by Innovation
Engineering Founder, Doug
Hall

After 10 years at Procter and Gamble I looked up one January 1 and realized my growth had stopped so I decided it was time to retire from corporate life and start my own company.

With three credit cards for financing, our family basement as our office and my wife five months pregnant with our third child I founded what is known today as Eureka! Ranch. The purpose was to develop more reliable innovation systems. However, the business world was not ready for systems when it came to innovation.

In the late 80's and early 90's innovation was done by guru's so - in a fraudulent move - I marketed myself as a guru. I say fraudulent because the truth was smarter systems were the reason for any success I had or have had. I'm not a genius. I graduated from college with a 2 point something grade point average.

That all said - Marketing myself as a guru worked - the media and clients saw me as an expert.

Clients came from around the world to work with the "guru" at the Eureka! Ranch just outside of Cincinnati Ohio. 88% of our business was repeat. We worked with the best and brightest at innovation: Procter & Gamble, Nike, Walt Disney, American Express - as well as thousands of companies whose names are not as familiar such as DR Power, Schlumberger and Dimensional Innovations. These cultures know the value of innovation and seek the latest learning on how to improve.

We also worked with companies that were desperate. Sadly when they reached out to us it was often too late. That was the case with AT&T (the original), Blockbuster, Circuit City, Maytag, Chrysler and Gillette. We worked with each of these companies within a year of them ceasing to exist as independent companies

The Data that Drives the System.

The truth was, behind the scenes at the Eureka! Ranch we had smarter systems for finding, filtering and fast tracking innovations. As the sole shareholder I had the blessing of having the freedom to invest as I thought was most valuable. In many years we invested over 35% of our gross income into research and development of smarter systems.

To be honest the research, though it was lead by PhD's was not always as fine tuned and controlled as academic research can be. However, what we lost in controlled experiments we gained in the real world nature of our data. Our data was from real managers working on real problems not campus psychology department experiments or secondary data analyses.

Basically, every Eureka! Inventing project was a live R&D experiment that added to our databases. We were honest with clients about what we were doing and many of them got excited about it and helped us identify and problem solve innovation system challenges.

The result was a database of real world data on companies large and small that is beyond any on earth. And frankly, it is this hard data, statistically analyzed that is the reason the Innovation Engineering System

can promise increased innovation speed up to 6X and decreased risk of failure by 30 to 80%.

Here's an overview of the data to date and why it matters:

PEOPLE Data: Our data base includes data on innovation perceptions and beliefs from over 100,000 managers. This data helps us understand how to adapt and customize innovation systems for different thinking styles, cultures, and mindsets.

PROCESS Data: Quantitative data on members of over 15,000 innovation teams defines how to increase innovation success rates. Analysis of this data validated the three principles (Stimulus, Diversity, and Driving out Fear) that when applied ignite a 7x increase in the number of "big ideas" created versus classic brainstorming.

IDEA Data: Quantitative market research on over 25,000 innovations defined what a successful innovation looks like and how to drive sales. Quantitative sales forecasts using monte - carlo simulations and content analysis on the successes and failures identified the key components of an idea (Customer, Problem, Promise, Proof, Meaningful Uniqueness) as well as principles for increasing odds of marketplace success (focus, clarity, synergy, numeric benefits, etc.).

SYSTEM Data: We gather real time, weekly data on the creation and development of innovations from inputs to outputs. Currently there is over \$11 billion worth of ideas in active development. This data documents on a real time basis, cycle times, pinch points, as well as market risk, technical risk, and organizational risk milestone challenges. The data enables our system designers and client system leaders to identify the largest systemic opportunities for increasing speed to market and decreasing risk.

In time, as the business world faced recessions and the new global world - learning from this research became two books *Jump Start Your Business Brain* and *Meaningful Marketing* together they laid out the basic principles that have become the foundation of Innovation Engineering.



The Data Learning Chain Reaction.

Graeme Crombie from the consultancy group, Matrix in Glasgow Scotland in May of 2001 engaged Maggie Nichols and myself to teach our system approach to innovation in Scotland. I am proud to say that we continue to collaborate to this day. Graeme and his team apply Innovation Engineering to help companies across Scotland and Ireland increase speed to market and decrease risk.

The rigor and originality of the research caught the eyes of the University of Maine. The University of Maine, was so excited that President Bob Kennedy with the support of Hemat Pense, Jake Ward and Renee Kelly committed to an experimental course in Innovation. During the fall of 2005, the first Innovation Engineering course was taught at the University of Maine with Margo Lukens, Darrell Donahue and Liz Downing teaching nine pioneering students.

In 2009, I took a sabbatical from the Eureka! Ranch and lived on campus to help build out version 1.0 of the Innovation Engineering courses. During January of 2010, at the Sugarloaf Ski Resort, we ran the first three day Innovation Engineering Leadership Institute. The program was raw and rough. Despite that, the reaction from CEO's of large and small companies in attendance was very encouraging.

What the response at Sugarloaf taught me was that the time was right to bring Dr. Deming to the world of Innovation.

With the support of what would become known as the Innovation Engineering Pioneers, many of which had traveled from far away to attend the Sugarloaf event, a full body of knowledge was defined that was both academically rigorous and industry relevant.

A total of six courses were developed that covered 48 Skills and hands on Experiences.

The four core courses each covered 12 skills. They are named: 1) Create, 2) Communicate, 3) Commercialize, and 4) Systems. The Innovation Engineering logo includes an icon for each of the first three classes with the Systems class using the collection of three icons.

From there, commercial versions of Innovation Engineering were developed:

IE 1.0 - A Front End Innovation Operating System

IE 2.0 - A Leap Innovation Operating System

IE 3.0 - A Total Business Operating System

I often step back and wonder how we got to where we are. A new field of study taught on campus. Billions worth of ideas in active development. Innovation Engineering Black Belts around the world.

I'd love to be able to say Innovation Engineering was a the result of a grand vision. But that's not how it happened.

The truth is - a team of innovation pioneers at the Eureka! Ranch, the University of Maine and around the world came together with a focus on building something that could make a real difference in the world. Together, this community of Pioneers have created, recreated and are still recreating smarter and smarter systems.

Actually that is probably over thinking it.

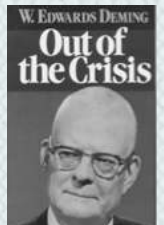
If you were sitting at Threshfield's pub, just inside the front door of the Eureka! Ranch in Cincinnati Ohio USA, and asked one of the over 100 pioneers whose photos are on the east wall the secret to our success they would undoubtedly answer with a version of their irreverent mantra. "Innovation Engineering really happened because we stopped wasting our time on what doesn't matter - we focused our energy on *"Doing Cool Shit That Matters."*

Honestly, that is THE secret to how Innovation Engineering happened and how it continues to grow at an exponential pace. It's also the real message of this book and the movement.

Life is too short to waste your time. As Dr. Deming said:

"It's so easy to do nothing. It's a challenge to do something. Learning is not compulsory; it's voluntary. Improvement is not compulsory; it's voluntary."

But to survive, we must learn. The penalty for ignorance is that you get beat up. There is no substitute for knowledge. Yet time is of the essence."





The Eureka! Ranch in Cincinnati, Ohio USA is often the home of Innovation College. It is a custom-built facility and the perfect get away for immersive learning for your flip to an innovation mindset. In addition to Eureka! Ranch, public and private events are conducted around the world.

INNOVATION COLLEGES ARE HELD AROUND THE WORLD AND AT THE EUREKA! RANCH, CINCINNATI, OHIO USA

A safe-haven for original thinking and a world-class environment for learning

Established 1986



Set on the edge of a beautiful lake and public park, the Ranch is a tucked away gem that's perfect for getting away to immerse yourself in learning the new mindset.



You enter through Threshfield's Pub. By night it's stocked with Kentucky's best bourbons, Scotch from The Macallan (long time Ranch client), local microbrews and world class wine. By day it hosts Tea Time with teas, scones, treats and cappuccinos.



From there you enter the open plan Eureka! Room with a wall of windows that look out onto the lake and cozy seating areas with "settle-in" furniture.



Meals at the Eureka! Ranch are legendary. And all of them are included at Innovation College. With a good balance of good for you (even vegetarian and vegan) and stick to your ribs, you're sure to never leave hungry.



And if you want to work off those delicious calories, our full gym opens each day at 6:30 am so you can squeeze in time on the weight lifting equipment, ellipticals or treadmills before, during and after your course.



The Ranch is located at 3849 Edwards Road Newtown, Ohio 45244 20 minutes east of downtown Cincinnati. It is just 35 minutes from the Cincinnati/Northern Kentucky International Airport.



Innovation College occurs nearly every month of the year. The course itself is 5 days, with digital pre-work of 100 short videos to learn the concepts in advance.

DATES FOR INNOVATION COLLEGE

June 8 - 12 Eureka! Ranch, Cincinnati, Ohio USA

- Digital Class pre-work opens May 8th

August 24 - 28 Eureka! Ranch, Cincinnati, Ohio USA

- Digital Class pre-work opens July 24th

September 14 - 18, WWU IDEA Institute, Bellingham, WA USA

- Digital Class pre-work opens August 14th

October 26-30 Winnipeg, Manitoba Canada

- Digital Class pre-work opens September 26th

For information on the the most current and soon to be released dates call +1.513.271.9911.

INNOVATION ENGINEERING

Out of the Crisis II

To paraphrase Dr. W. Edwards Deming from his book *Out of the Crisis*. *"The aim of this book is transformation of the style of management. Transformation of management is not a job of reconstruction, nor is it revision. It requires a whole new structure, from foundation upward. Mutation might be the word, except that mutation implies unordered spontaneity. Transformation must take place with directed effort. The aim of this book is to supply the direction."*

The "Crisis" Dr. Deming referred to was the massive decline that western companies experienced during the late 70's as a result of their quality gap versus Japanese products. Dr. Deming knew the solution to the "Crisis." He was the one who had taught the Japanese how to increase quality and reduce costs by applying system thinking to manufacturing.

Japanese industry was so thankful they named their national quality award, the Deming Prize. The Japanese Emperor awarded him the Second Order of the Sacred Treasure in recognition of his contributions to Japan. Shoichiro Toyoda, President and member of the family that founded Toyota, described Dr. Deming's impact on his company this way: *"Everyday I think of what he meant to us. Deming is the core of our management."*

Out of the Crisis II

The Crisis in 1980 was the quality gap. The Crisis today is the innovation gap.

Today, if you are not meaningfully unique you better be cheap.

The innovation gap is amplified by the Internet. The internet accelerates the decline of companies and careers into price driven commodities. The internet accelerates change, new technologies, and enables new competitors.

To the optimist, the accelerating pace of today ignites new possibilities for winning versus competition and in marketplaces around the world. To the pessimist, it's the worst thing that could ever happen.

The solution to the Crisis in 1980, was using the system thinking taught by Dr. Deming to enable increased quality and decreased cost. Today, a team of pioneers lead by the Innovation Engineering Institute are finding that the solution to Crisis II is applying system thinking as taught by Dr. Deming to enable innovation by everyone, everywhere, everyday. The result is increased speed to market (up to 6x) and decreased risk (30 to 80%).

Dr. Deming understood the value of applying systems thinking to innovation. In his book *The New Economics* he estimated that the factory represented just 3% of the opportunity for company improvement, *"the shop floor is only a small part of the total. Anyone could be 100% successful with the 3 per cent, and find himself out of business."* The biggest opportunity for system thinking is in applying it to strategy, innovation and how we work together. And that, is the purpose of the Innovation Engineering movement.

What is Innovation Engineering?

Innovation Engineering is a reliable methodology to Define, Discover, Develop and Deliver new ways to address a business situation (incremental and short term Core projects or disruptive, longer term Leap projects).

It is a systematic approach to align strategy, create innovative ideas, persuasively communicate ideas, rapidly test ideas with quantitative research, patent ideas and take the idea to market with increased speed and decreased risk.

Innovation Engineering is based on a belief that to win with innovation in today's marketplace we need to move from controlling to ENABLING employees. Therefore, all education programs on campus and off (IE Green Belt, Blue Belt and Black Belt) use the patent pending Cycles to Mastery™ teaching technology. It is designed to enable all who are willing to achieve mastery of the 48 skills that make up the Innovation Engineering field of study. The Innovation Engineering digital tool set at Innovation Engineering labs.com enables employee effectiveness in project management, collaboration, rapid research and patent ROI.

The Innovation Engineering transformation is designed to be implemented over time, using a "diffusion of innovation" approach, with each phase delivering tangible results, but with low to no disruption to existing business operations.



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