2026 EDELMAN GALA

Recognizing Distinction in the Practice of Analytics, Operations Research, and Management Science



2026 EDELMAN GALA

FOR DISTINCTION IN PRACTICE



FRANZ EDELMAN AWARD
Achievement in Advanced Analytics, Operations Research & Management Science
Emphasizing Beneficial Impact

INFORMS EARLY CAREER PRACTITIONER AWARD
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Emphasizing Innovative Methods and Clear Exposition

INFORMS PRIZE
Sustained Integration of Operations Research
Emphasizing Long-term, Multiproject Success

National Harbor, Maryland | April 13, 2026

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2025 Wagner Prize Chair

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HOST OF CEREMONY

Robin Lougee, Past VP Practice; KnitWell Group



Radhika Kulkarni is an advanced analytics professional, active in the areas of operations research (O.R.), artificial intelligence, and machine learning. She started her career as a visiting professor in the O.R. and statistics departments at UNC Chapel Hill, before moving to a career in industry at SAS Institute. She retired after 35 years of leading various areas of analytics R&D at SAS. For the last 10 years of her career, Kulkarni was the vice president of advanced analytics R&D, overseeing software development in many analytical areas including statistics, O.R., econometrics, forecasting, and data mining. One of the hallmarks of her leadership was fostering interdisciplinary collaboration across the research teams with diverse analytical expertise.

Radhika has remained an active and involved member in INFORMS throughout her career. Since her retirement from SAS Institute, Radhika has served as one of the leaders of the INFORMS AI Initiative, with the goals of advancing and promoting O.R. and analytics within the AI community and advocating for O.R. and analytics among policymakers and other constituencies. She is a recipient of the Women in Operations Research and the Management Sciences (WORMS) Award. She was recognized as an INFORMS Fellow in 2014 and served as the 2022 president of INFORMS.

Radhika serves on the Master of Science in Analytics Advisory Board at Georgia Tech, External Advisory Board at The Institute for Learning-Enabled Optimization at Scale (TILOS), and the Advisory Board for the Business Analytics Program at Sabancı University in Turkey.

Radhika holds a bachelor's in mathematics from Presidency College, Madras, a master's in mathematics from the Indian Institute of Technology, New Delhi, and a master's (1979) and PhD (1981) in O.R. from Cornell University.









ANALYTICS AND OPERATIONS RESEARCH TODAY

SMARTER DECISIONS FOR A BETTER WORLD

By Mark E. Lewis, INFORMS President



Welcome to the 2025 INFORMS Edelman Gala! On behalf of INFORMS, its board of directors, leadership, staff, and volunteers, we are thrilled to have you join us in celebrating the remarkable and transformative contributions of analytics professionals from around the world. Tonight, we honor the finalists and announce the winners of some of INFORMS' most prestigious awards: the Franz Edelman Award for Achievement in Advanced Analytics, Operations Research, and Management Science; UPS George D. Smith Prize; Early Career Practitioner Award; Daniel H. Wagner Prize for Excellence in Operations Research Practice; and INFORMS Prize.

This evening is a powerful reminder of the far-reaching impact of operations research (O.R.) and advanced analytics, as well as the brilliant individuals who make up this vibrant community. It is the creativity, hard work, and unwavering dedication of these professionals that drives innovation, fuels discoveries, and leads to the incredible applications we are celebrating tonight.

The finalist teams this year represent a diverse mix of organizations and industries from across the globe. We are honored to welcome teams from three continents (Asia, Europe, and North America), reflecting the international reach of the analytics field.

Tonight's awards celebrate significant achievements at every stage of an analytics professional's career. From university programs that set the foundation for future leaders in analytics, to the groundbreaking work done early in one's professional journey, to the lifetime commitment of advancing analytics' role in solving complex global challenges, these awards showcase the full breadth of the profession's impact.

The accomplishments of tonight's finalists, whether just starting out or with years of experience, the accomplishments of tonight's finalists serve as an inspiration to all. They demonstrate that excellence in analytics is always within reach, no matter where you are on your journey.

I invite you to take time to explore this program, which highlights the achievements of this evening's awardees and finalists. Once again, thank you for joining us at the 2025 Edelman Gala to celebrate excellence in analytics and the visionary individuals who are making *smarter decisions for a better world.*

WINNERS ARE GRINNERS

How Operations Research Took USA Cycling to Olympic Gold, and What Comes Next

By Ryan Cooper, USA Cycling Technical Advisor, Tech & Innovation Committee

---

When they announced USA Cycling as the winner of the 2025 INFORMS Franz Edelman Award, our table erupted. Because of the nature of high-performance sport, there were only three of us from USA Cycling: Jim Miller, head of sports performance; Kelsey Erickson from our executive leadership team; and me, alongside our INFORMS Edelman coaches. Jim had kicked me under the table just before the announcement and flashed a grin. We have a saying on this team: *winners are grinners*. He had a feeling. When the words left Edelman Award Committee Chair Irv Lustig's mouth, everyone at the table was hugging. Our Edelman coaches were as excited as we were. The exuberance was palpable. I was overtaken with emotion; it felt the same as when the women crossed the finish line to win the gold medal at the 2024 Olympic Games in Paris.

Looking back at Molslinjen's win the year before, I couldn't help but notice the parallels. They opened their reprise asking the audience, "Who had heard of Molslinjen and Halfspace before yesterday?" For us, the question was different, but the spirit was the same: we were putting eight seconds against billions of dollars of savings. Our competitors for the Edelman Award – Amazon, Lufthansa and Google, WM, Flipkart, and SF Express – are titans in their industries. To be considered alongside them was an honor. To win was on another level entirely.

But what does eight seconds really drive? For me, as someone who has spent a career applying operations research across e-commerce, logistics, and enterprise software, the Edelman win was proof of something I have always believed: the same mathematics that saves companies billions can also achieve the pinnacle of human performance. The discipline is the same. The impact is universal.

What has happened since the win has been extraordinary. USA Cycling is now seen as the bleeding edge of high-performance Olympic sport in the United States. The Edelman Award didn't just validate our approach; it accelerated everything. I have been on a speaking circuit across the cycling industry, for O.R. programs, and with the U.S. Olympic & Paralympic Committee (USOPC) for other national governing bodies (NGBs). The message is consistent: data-driven decision-making isn't a luxury reserved for well-funded programs. It's a force multiplier, especially when resources are scarce.

Brendan Quirk, USA Cycling's CEO, was elected as National Governing Body Council chair, a role that oversees technology and innovation initiatives across all U.S. Olympic NGBs in coordination with the USOPC. He is driving our AI initiatives for the LA 2028 Olympics. We are expanding our capabilities not just in cycling but across summer sports, from traditional modeling and optimization to AI initiatives, and critically, teaching NGBs to leverage the right tools for the right purpose and outcome. We are bringing in volunteers and employees we met at INFORMS to enhance our modeling capabilities, adding optimized nutrition protocols, new aerodynamic modeling, and, of course, more O.R. where it makes the most sense.

Our Tech and Innovation Council has been rebranded as **Team 405**, a name that nods both to the winning time and to the famous 405 freeway through Los Angeles, where the 2028 Olympics will be held. Team 405 now includes members from OpenAI, Google, Strava, and Snowflake; leaders of venture capital in Silicon Valley; and start-up founders. The Edelman recognition opened doors that would have taken years to unlock otherwise.

Most recently, we partnered with Rapha, one of cycling's most respected brands. Their CEO, Fran Millar, pointed directly to the women's performance and our lofty 2028 goals as the catalyst for their strategic initiative with USA Cycling. This is not a small partnership. Rapha is building custom clothing for all our athletes and is ushering in a new aerodynamic initiative that will be unparalleled. Fran previously led the team behind the successful sub-two-hour marathon initiative. That means we now have not just a clothing partner but partner leadership with deep conviction and a proven track record of breaking barriers of human performance.

But what stays with me most is the human impact. This past fall, I attended USA Cycling's annual fundraising event, Bicycles and Bluegrass. We moved it to Silicon Valley this year, and it drove record fundraising totals. The energy in the room was electric, but what took my breath away was Kristin Faulkner, two-time gold medalist from Paris, taking the stage and personally thanking USA Cycling and each member of the team for helping her achieve not just her gold in Team Pursuit but also her Road Race victory. Although Project 4:05 was the Edelman submission, USA Cycling is pushing the boundaries of performance modeling and training across all our disciplines. That moment made it real: the math matters because the people matter.

We have a goal of 10 medals in LA 2028. But the medals are almost a by-product. By unlocking these relationships, engaging partners, and expanding our technology tools and headcount, we are building something sustainable. O.R. in sports is real, and other countries are catching on. AI is closing the gap on modeling. But I believe we still have an edge with deep subject matter expertise, leadership aligned with what needs to be done, and, most important, buy-in from coaches and athletes who have lived the results.

To the INFORMS community: this award belongs to you as much as it belongs to us. The Edelman Competition embodies the belief that operations research and analytics can change the world for the better, not just in boardrooms and supply chains but on velodromes and at starting lines. Project 4:05 proved that when you combine rigorous mathematics with relentless purpose, you can close a gap that everyone said was impossible. Eight seconds. Gold medals. And a movement that is just getting started.

We must acknowledge the incredible athletes, coaches, sports scientists, and volunteers who made Project 4:05 possible, as well as our partners at the USOPC and Vorteq Sports. We also want to express our gratitude to our Edelman coaches, the award judges, and the entire INFORMS community. Your recognition has amplified our impact beyond anything we imagined.

In the end, *winners are grinners*, and we expect quite a few smiles in 2028.









OPERATIONS RESEARCH: BILLIONS AND BILLIONS OF BENEFITS!

By Jeffrey M. Alden, General Motors, Retired

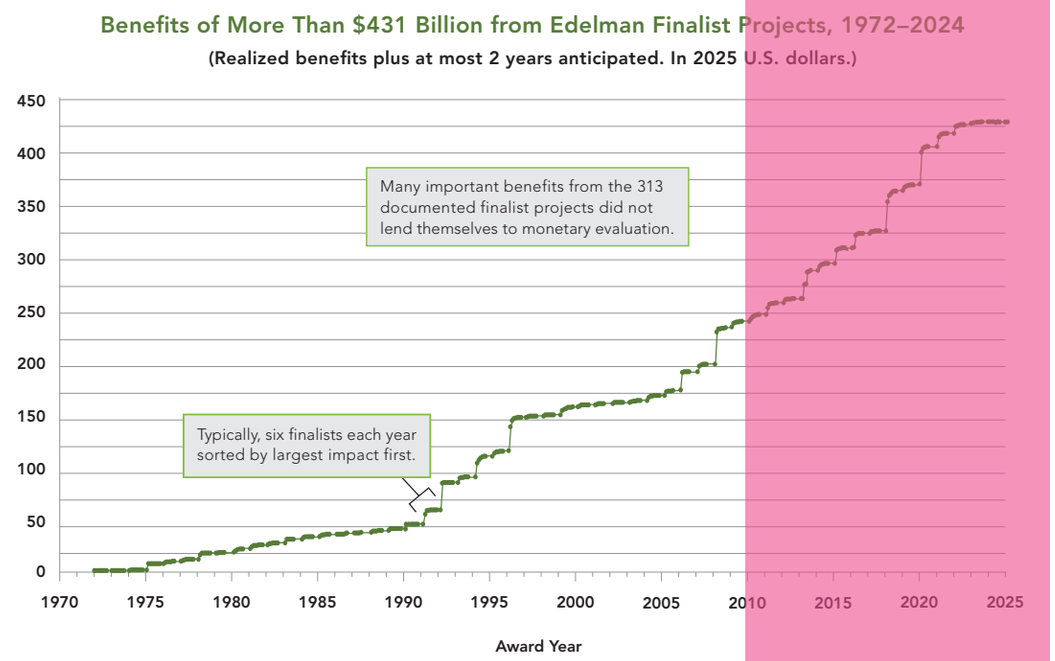
More than 431 billion U.S. dollars of cumulative impact! That's impressive! How were they estimated? How broad is the impact? Is there more?

Since 1974, the Edelman finalists have published their project accomplishments in the *INFORMS Journal on Applied Analytics*. While reviewing the 313 articles, their cumulative monetary impact was estimated under the following guidelines:

- Be objective with conservative assumptions.
- Include reported impact plus at most two more years of anticipated impact.
- Include only one year of enormous impact (tens of billions) to downplay the huge budget of some organizations.
- Ignore relative impact even though saving $10 million for a small company may be more impressive than saving $100 million for a large company.

These conservative guidelines exclude important yet difficult-to-quantify reported benefits such as better legal dispute resolution, cancer treatments, food assistance, airline safety, epidemic disease control, on-time railways, space shuttle heat shielding, and water quality. For example, there are dozens of finalist papers with significant life and health benefits. Most are difficult to quantify; however, a CDC project on mitigating epidemic deaths estimates saving 6,000 lives per year valued at $12B.[1] This saving compares conservatively with NIH's estimate that vaccines prevented 140,000 COVID-19 deaths in just one year.[2] One U.S. Army project estimates 4,500 avoided casualties by reducing requirements for helicopter and ground-convoy movements.[3] Another project estimated 3,000 lives saved during a recent Chile COVID-19 crisis with better use of ICU and screening capacity.[4] Nearly all finalist papers report nonmonetary benefits and often tout them as most important and longer lasting by establishing, for example, ongoing practices and organizational changes that improve health, safety, cooperation, decision-making, timeliness, and job satisfaction. Great! Clearly, reported monetary benefits significantly understate the full impact of the Edelman finalist projects.

Another important indication of the influence of operations research (O.R.) is the impressive breadth of applications. The Edelman finalists represent 80 different application areas, including aviation (safety, traffic, weather), banking, canal operations, communications (broadband, broadcasting, radio spectrum, streaming), consumer products, crowd control, cruise lines, delivery (express, truck, food), defense (Air Force, Army), education, financial (contract bidding, credit card, fraud, investment, pension, settlement), fire protection, forestry, food assistance, healthcare (blood collection, cancer, diagnosis, disease control, elderly, hospital, medical displays, pharmaceutical, surgery), hotel management, energy production and distribution (coal, gas, electric, nuclear, oil, wind), land use, manufacturing (electronics, computers, food, paper, seeds, steel, tires, vehicles), marketing, mining, printing, sanitation, security (airport, police), senior housing, social networks, sports, tax collection, transportation



(airline, highway, railway, ride share, rental, outer space, school bus, taxi), treasure hunting, U.S. census, veterinary, waste management, water (flood, flow, resources, quality), and weapons dismantlement. The list goes on and on! In fact, 808 organizations from business, government, and academia are recognized and honored as supporting or benefiting from finalist projects.[5]

Finally, this is just the "tip of the iceberg" because the Edelman Competition only captures those O.R. professionals choosing to compete! Just think, the 1,682 Edelman finalist authors only represent 14% of the current INFORMS membership.[6,7] Undoubtedly, a vast number of projects with significant impact did not compete due to confidentiality, lack of internal support to compete (e.g., no one thought of it, too busy, no management support, inadequate documentation), or the team was simply unaware of the competition.

The impact is immense! O.R. professionals should be proud of their profession – you can say "hundreds of billions of dollars and tens of thousands of saved lives" when asked about the value of O.R.!

1 For CDC: 6,000 lives/year ≈ 314M U.S. population * 5% epidemic penetration * 10% die under current practices * (100% - 80% fatality reduction under improved practices) * 1 epidemic per 200 years. Value of quality year of life in the U.S. is at least $2M / average life ≈ $50K/year (a standard value) * 78 years life expectancy * 50% average life lived due to epidemic. Total expected annual impact is $12B = 6,000 * $2M. See "Advancing Public Health and Medical Preparedness with Operations Research," *Interfaces*, Vol. 43, No. 1 (note Figure 6). Numbers are values considered reasonable by the author.

2 See https://www.nih.gov/news-events/nih-research-matters/vaccines-prevented-140000-covid-19-deaths-us. Accessed March 10, 2025.

3 "Bayesian Networks for Combat Equipment Diagnostics," *Interfaces*, Vol. 47, No. 1.

4 "Analytics Saves Lives During the COVID-19 Crisis in Chile," *INFORMS Journal on Applied Analytics*, Vol. 53, No. 1.

5 Some organizations and contestants have competed multiple times and are counted more than once.

6 Interesting how the average number of authors per paper has grown from 1.8 over the first 10 award years (1973-1982) to 9.7 over the last 10 award years (2015-2024).

7 "Edelman Finalists Quantified Benefits 2025," spreadsheet analysis of Edelman projects is available from the author or INFORMS.

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FRANZ EDELMAN AWARD

RECOGNIZING AND REWARDING REAL ACHIEVEMENT IN O.R. AND ANALYTICS

The Franz Edelman Award Competition is administered by the Practice Section of INFORMS.

For more than 50 years, the Franz Edelman Award has recognized outstanding achievements in advanced analytics, operations research (O.R.), and management science. Each year, finalist teams from leading organizations worldwide present projects that demonstrate transformative impact – often the result of years of collaboration and implementation.

The award honors Franz Edelman, who established one of North America's first corporate O.R. groups at RCA in the 1950s. More than seven decades later, the award continues to spotlight the profound influence of analytics across industries, governments, and communities worldwide.

The competition begins with a global call for entries and undergoes a rigorous review process led by a distinguished committee of practitioners and academics. Following detailed evaluation and verification of impact, six finalist teams are selected.

Finalists prepare journal-quality papers and presentations for the INFORMS Analytics+ Conference, supported by experienced coaches. During the conference, judges evaluate each team's work based on application significance, innovation, technical rigor, and measurable impact. Constructive feedback helps teams refine their presentations for the final round of competition, which includes an in-depth question-and-answer session.

Using clearly defined criteria, judges select the winner whose work best exemplifies the award's standards of excellence. Finalist achievements are featured in the *INFORMS Journal on Applied Analytics* and shared broadly at INFORMS conferences, extending their reach to thousands of professionals, researchers, and students worldwide.











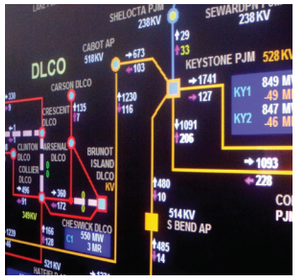

























EDELMAN AWARD PAST WINNERS

2025 **USA Cycling**

2024 **Molslinjen**

2023 **Walmart Global Tech**

2022 **Gobierno de Chile**

2021 **U.N. World Food Programme**

2020 **Intel Corporation**

2019 **Louisville Metropolitan Sewer District**

2018 **Federal Communications Commission**

2017 **Holiday Retirement**

2016 **UPS**

2015 **Syngenta**

2014 **U.S. Centers for Disease Control and Prevention**

2013 **Delta Programme Commissioner**

2012 **TNT Express**

2011 **MISO**

2010 **Indeval**

2009 **Hewlett-Packard**

2008 **Netherlands Railways**

2007 **Memorial Sloan Kettering Cancer Center**

2006 **Warner Robins Air Logistics Center**

2005 **General Motors**

2004 **Motorola, Inc.**

2003 **Canadian Pacific Railway**

2002 **Continental Airlines**

2001 **Merrill Lynch, Inc.**

2000 **Jeppesen Sanderson, Inc.**

1999 **IBM**

1998 **Bosques Arauco, S.A.**

1997 **Societé Nationale des Chemins de Fer Français and Sabre Decision Technologies**

1996 **South African National Defense Force**

1995 **Harris Corporation (Semiconductor Sector)**

1994 **Tata Iron & Steel Company, Ltd.**

1993 **AT&T**

1992 **New Haven Health Department**

1991 **American Airlines**

1990 **Health Care Financing Administration**

1989 **ABB Electric, Inc.**

1988 **City of San Francisco Police Department**

1987 **Syntex Laboratories, Inc.**

1986 **Southland Corporation (CITGO Petroleum Corporation Subsidiary)**

1985 **Weyerhaeuser Company**

1984 **Blue Bell, Inc. (dual)**

1984 **The Netherlands Rijkswaterstaat & the RAND Corporation (dual)**

1983 **Air Products and Chemicals, Inc.**

1982 **Arizona Department of Transportation**

1981 **ANR Freight System**

1980 **Kelly-Springfield Tire Company**

1979 **The Greater New York Blood Program**

1978 **Cahill May Roberts, Ltd.**

1977 **Syncrude Canada, Ltd.**

1976 **American Telephone & Telegraph**

1975 **Xerox Corporation**

1974 **Canadian National Energy Board**

1973 **The Babcock & Wilcox Company**

1972 **The Pillsbury Corporation**

THE 2026 SELECTION COMMITTEE MEMBERS, VERIFIERS, COACHES, AND JUDGES

We wish to thank the following individuals for their dedication and service as Selection Committee members and verifiers, coaches, and judges for this year's Edelman Award.

The verifiers work closely with the committee members to validate the claims made by each semifinalist entry. Once named a finalist, each team is assigned multiple coaches to help prepare for the competition. Finally, the Edelman judges are tasked with understanding each finalist presentation and project impact, to include asking pertinent questions during the competition, in order to select this year's winning team.

Selection Committee & Verifiers

- Irvin Lustig, CAP, *Chair, Edelman Award; Princeton Consultants*
- Layek Abdel-Malek, *New Jersey Institute of Technology, v*
- Shrish Ankur, *Meta Platforms, v*
- Joachim Arts, *MIT SIG*
- Maya Bam, *General Motors, v*
- Manish Bansal, *Virginia Tech*
- Ann Bixby, *Aspen Tech*
- Mark Brennan, *Rutgers University, v*
- Luciana Buriol, *Amazon, v*
- Ulas Cakmak, *Infor*
- Manoj Chari, *UNC-Chapel Hill, v*
- Canan Gunes Corlu, *Boston University*
- Goutam Dutta, *Indian Institute of Management Ahmedabad, Retired, v*
- Zeynep Ertem, *Binghamton University, SUNY*
- Javier Faulin, *Public University of Navarre*
- Kenneth Fordyce, *Arkieva, v*
- Suzan Iloglu, *Amazon*
- Shailendra Jain, *Hewlett Packard Enterprise, Retired, v*
- Hansheng Jiang, *University of Toronto, v*
- Angie King, *Wayfair, v*
- Don Kleinmuntz, *Kleinmuntz Associates, v*
- Kyle Kliewer, *Lockheed Martin*
- Sumit Makashir, *Amazon.com*
- Shannon McKeen, *Wake Forest University*
- Aly Megahed, *Meta Platforms*
- Marc Meketon, *Oliver Wyman*
- Polly Mitchell-Guthrie, *Kinaxis, v*
- David Muñoz, CAP, *Instituto Tecnológico Autónomo de México, v*
- Chanel Murray, *PNC*
- Alper Nakkas, *University of Texas at Arlington, v*
- Patricia Neri, *Intelligent Analytics Solutions, v*
- Naser Nikandish, *Johns Hopkins University*
- Dessislava Pachamanova, *Babson College, v*
- Ioannis (Yannis) Papadakis, *Zoetis Inc.*
- Pelin Pekgun, *Wake Forest University*
- Sanjay Prasad, *IBM, v*
- Sreekanth Rajagopalan, *Dow Chemical*
- Nithhyaa Ramamoorthy, *Mayo Clinic, v*
- Mikael Rönnqvist, *Université Laval*
- Kathryn Schumacher, *General Motors*
- Inderjeet Singh, *Infor*
- Swapnil Srivastava, *Evalueserve, v*
- Zohar Strinka, CAP, *Analytics Strategies LLC, v*
- Natalia Summerville, *Memorial Sloan Kettering Cancer Center*
- Kermit Threatte, *Innovative Optimization, v*
- Ozgu Turgut
- Leon Valdes, *University of Pittsburgh*
- Joyce Weiner, *Intel Corporation, v*
- Erick Wikum, *Wikalytics, LLC*
- Frederick Zahrn, *The Walt Disney Company*
- Xinhui Zhang, *Coupang Corp, v*

"v" Indicates verifiers

Franz Edelman Coaches

- Layek Abdel-Malek, *New Jersey Institute of Technology*
- Maya Bam, *General Motors*
- Manish Bansal, *Virginia Tech*
- Ulas Cakmak, *Infor*
- Canan Gunes Corlu, *Boston University*
- Kenneth Fordyce, *Arkieva*
- Shailendra Jain, *Hewlett Packard Enterprise*
- Kyle Kliewer, *Lockheed Martin*
- David Muñoz, CAP, *Instituto Tecnológico Autónomo de México*
- Alper Nakkas, *University of Texas at Arlington*
- Naser Nikandish, *Johns Hopkins University*
- Sreekanth Rajaoplan, *Dow Chemical*
- Mikael Rönnqvist, *Université Laval*
- Inderjeet Singh, *Infor*
- Zohar Strinka, CAP, *Analytics Strategies LLC*
- Kermit Threatte, *Innovative Optimization*
- Frederick Zahrn, *The Walt Disney Company*
- Xinhui Zhang, *Coupang Corp*

Franz Edelman Judges

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- Ann Bixby, *Aspen Technology*
- Manoj Chari, *UNC Chapel Hill*
- Goutam Dutta, *Indian Institute of Management Ahmedabad, Retired*
- Marc Meketon, *Oliver Wyman*
- Chanel Murray, *PNC*
- Patricia Neri, *Intelligent Analytics Solutions*
- Joyce Weiner, *Intel Corporation*
- Erick Wikum, *Wikalytics*



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THE EDELMAN LAUREATES

The individuals who author Edelman finalist papers are deemed Franz Edelman Laureates.

Authors of finalist papers to be published in the *INFORMS Journal on Applied Analytics*, are recognized as Laureates and formally presented with the Franz Edelman Medal prior to the Edelman Gala.

Laureates are recognized for their significant contributions to work that was selected to represent the best applications in the world of analytical support for decision-making. Laureates are expected to serve as role models and exemplify that challenges can be met and innovative applications of analytics can help every organization.

The Laureate recognition is distinct and separate from membership in the Franz Edelman Academy.

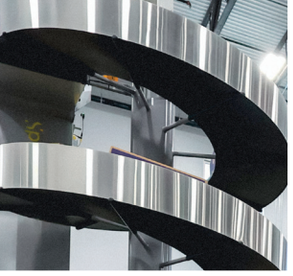
THE EDELMAN ACADEMY

Each year, participating organizations are inducted as members of the Franz Edelman Academy.

The primary client organization, or beneficiary of the finalist work, is inducted into the Edelman Academy at the Edelman Gala during the INFORMS Analytics+ Conference. Academy members serve as role models for other organizations.

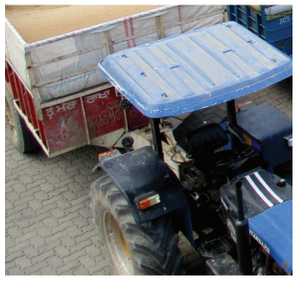
In addition, organizations that played a major role in the work, and therefore deserve academy membership, may also be inducted. The most common example would be an organization that provided the professionals who did the majority of the analytical work.

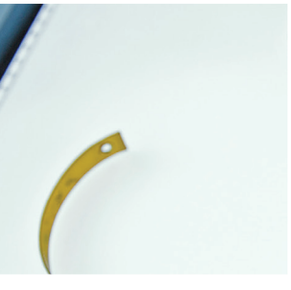
The membership of the Franz Edelman Academy represents more than 50 years of extraordinary contributions to society through the innovative application of O.R. and advanced analytics.

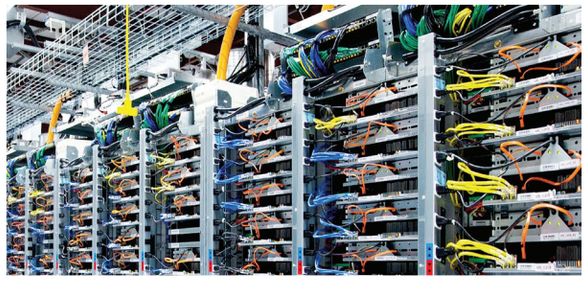




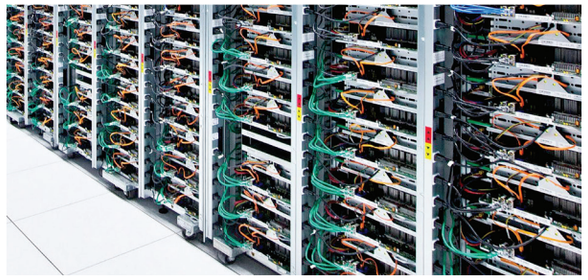




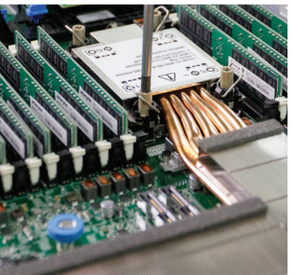











THE 2026 FRANZ EDELMAN AWARD FINALISTS

Introducing the six finalists for the 2026 Franz Edelman Award.

Over the past several months, these Edelman finalist teams, with guidance from their team coaches, have demonstrated to the Edelman Selection Committee that their work is among the finest examples of operations research and analytics practice in the world. One of these organizations will be recognized as the best in class, the first-place recipient of the 2026 Franz Edelman Award for their work to help save lives, save money, and solve problems.

A shortened summary of each of the 2026 finalist team's work is described in the following pages. Papers including the full project description will be published in the January/February 2027 issue of the *INFORMS Journal on Applied Analytics*. The journal, published by INFORMS, is dedicated to improving the practical application of operations research and advanced analytics in today's organizations and industries.

The 2026 Edelman Award finalists are:

- Chewy
- Department of Food and Public Distribution
- ECCO
- Google
- Microsoft
- Nvidia



CHEWY

Transforming Replenishment at Chewy

As Chewy grew into the largest online pet retailer and pharmacy in the United States, its supply chain expanded rapidly in scale, complexity, and strategic importance. By 2025, Chewy served more than 20 million active customers through a nationwide fulfillment network, shipping hundreds of thousands of products daily across core retail, pharmacy, and specialty businesses. This growth delivered exceptional customer experience, but it also placed an unprecedented strain on replenishment, the function responsible for deciding what inventory to buy, when to buy it, how much to buy, and where to buy it.

In e-commerce pet retail, where industry margins average roughly 2.5%, replenishment decisions have a substantial financial impact. Inventory placed in the wrong location increases shipping distance, drives split shipments, raises fulfillment costs, and degrades customer experience. Poorly structured purchase orders strain vendor operations and reduce supply reliability. At Chewy's scale, even small inefficiencies compound rapidly across hundreds of thousands of daily orders, making replenishment one of the most critical levers for both profitability and customer experience.

Chewy's early replenishment systems relied on fragmented business rules and third-party software designed for smaller, less complex retail environments. These approaches were sufficient during early growth, when the assortment was limited and fulfillment capacity was unconstrained. As the network expanded, however, these legacy methods began reinforcing inefficiencies rather than correcting them.

Decisions were optimized locally instead of across the network, conditioning future inventory placement on past constraints rather than true cost-optimal fulfillment.

Vendor-specific requirements, such as minimum order quantities, delivery calendars, and capacity limits, were difficult to enforce systematically, leading to manual overrides. The system lacked flexibility to support new business lines, including regulated pharmacy operations, without extensive workarounds. Incremental fixes could no longer keep pace with Chewy's growth.

Chewy's leadership recognized that it could not treat replenishment as a collection of isolated decisions. Instead, it needed to be rebuilt as an integrated, scalable, and trustworthy operating system – one designed explicitly for Chewy's scale, vendor diversity, and fulfillment complexity.

Rather than optimizing a single decision step, Chewy took a system-design approach and rebuilt replenishment as a cohesive ecosystem with three tightly integrated components:

1. Science models that determine how inventory should be replenished

2. An engineering platform that enables reliable, large-scale execution

3. An analytical monitoring layer that supports diagnosis and continuous improvement

This ecosystem decomposes the replenishment problem into three intuitive but interdependent decision layers: forecast allocation, uncertainty modeling, and purchase order optimization. Each layer is designed to solve a specific problem while working seamlessly with the others. This modular design balances rigor with transparency, enabling planners and leaders to understand, trust, and adopt model-driven decisions from the first day of deployment.

The first layer addresses a foundational challenge where customer demand is forecasted geographically, but inventory decisions must be executed at the fulfillment center level. Chewy's forecast allocation model determines how regional demand should ideally be fulfilled across the network, minimizing shipping cost while respecting capacity and reducing split shipments. Rather than relying on historical shipment patterns, which are often distorted by past stock-outs or bottlenecks, the model produces a clean, forward-looking fulfillment signal. It intentionally diversifies demand across fulfillment centers to improve resilience and customer experience.

Forecasts are inherently imperfect, and supplier lead times frequently deviate from expectations. Chewy's uncertainty model translates these complex risks into clear, trusted safety stock targets. Instead of relying on restrictive assumptions, it uses empirical data to capture item-specific demand variability and supplier behavior, including skewed and heavy-tailed patterns common in retail.

Crucially, the model separates uncertainty driven by forecast error from uncertainty driven by supplier delays. This decomposition allows planners to understand why safety stock changes and whether corrective action should focus on forecasting accuracy or supplier performance. For new products without demand history, the model infers uncertainty from comparable items, enabling scalable support for continuous assortment growth.

Safety stock decisions are optimized jointly across related products to maximize free cash flow, ensuring that high-volume and low-margin items are treated appropriately within the broader economic context of the category.

The final decision layer converts demand signals and safety stock targets into executable purchase orders. This purchase-order optimization model jointly determines order quantities, fulfillment center allocation, and transportation plans while respecting vendor contracts, operational constraints, and capacity limits.

Orders are optimized at the network level rather than independently by location, allowing demand pooling across fulfillment centers for items with large minimum order quantities. A layered cost structure balances fulfillment efficiency, inventory holding costs, service levels, and operational risk. The result is a set of purchase orders that are both cost-efficient and operationally feasible, generated daily within fixed production windows.

To scale these models into daily operations, Chewy built a custom engineering platform with shared data pipelines, standardized interfaces, and centralized orchestration. New vendors, SKUs, and facilities are onboarded through configuration rather than code changes, allowing the system to grow with the business.

Adoption was driven through a phased rollout, transparent dashboards and explainability tools that linked model recommendations directly to business outcomes. Analytical monitoring continuously tracks leading and lagging indicators, enabling the team to detect structural shifts and refine models proactively. This closed-loop feedback has already driven targeted improvements, preventing inventory inflation and reducing inbound handling complexity.

Since the initial rollout in 2023, the replenishment ecosystem has delivered substantial operational and financial benefits. Inventory placement improved significantly, increasing the share of orders fulfilled from the lowest-cost fulfillment center and reducing average shipping distance by approximately 11%. The percentage of customer orders shipped in a single box increased by more than 200 basis points, improving both cost and customer experience.

These operational gains are translated directly into financial results. At full scale, improvements in fulfillment efficiency generated substantial annual cost-per-order savings, partially offset by higher inventory investment. The net impact for FY2025 is approximately 1.57% of Chewy's net income, a highly material contribution in a low-margin industry. Beyond direct savings, the replenishment ecosystem strengthened vendor relationships by providing more stable and predictable ordering signals. Automation and reliability enabled Chewy's in-stock management organization to reduce the manual effort to manage inventory by 40%, which allowed for a reallocation of resources to contract negotiations and assortment expansion. Downstream teams now use the same signals for inbound labor and transportation planning, extending the value of the system beyond replenishment alone.

ORGANIZATION

Chewy

Founded with a mission to be the most trusted and convenient destination for pet parents, Chewy is guided by a culture of customer obsession and operational excellence. The company serves millions of customers nationwide through a rapidly expanding fulfillment and pharmacy network, offering a broad assortment of pet food, supplies, and medications. By rebuilding replenishment as a science-driven ecosystem, Chewy created a scalable foundation that supports growth, resilience, and superior customer experience, positioning the company to remain the leader of the pack in pet e-commerce.



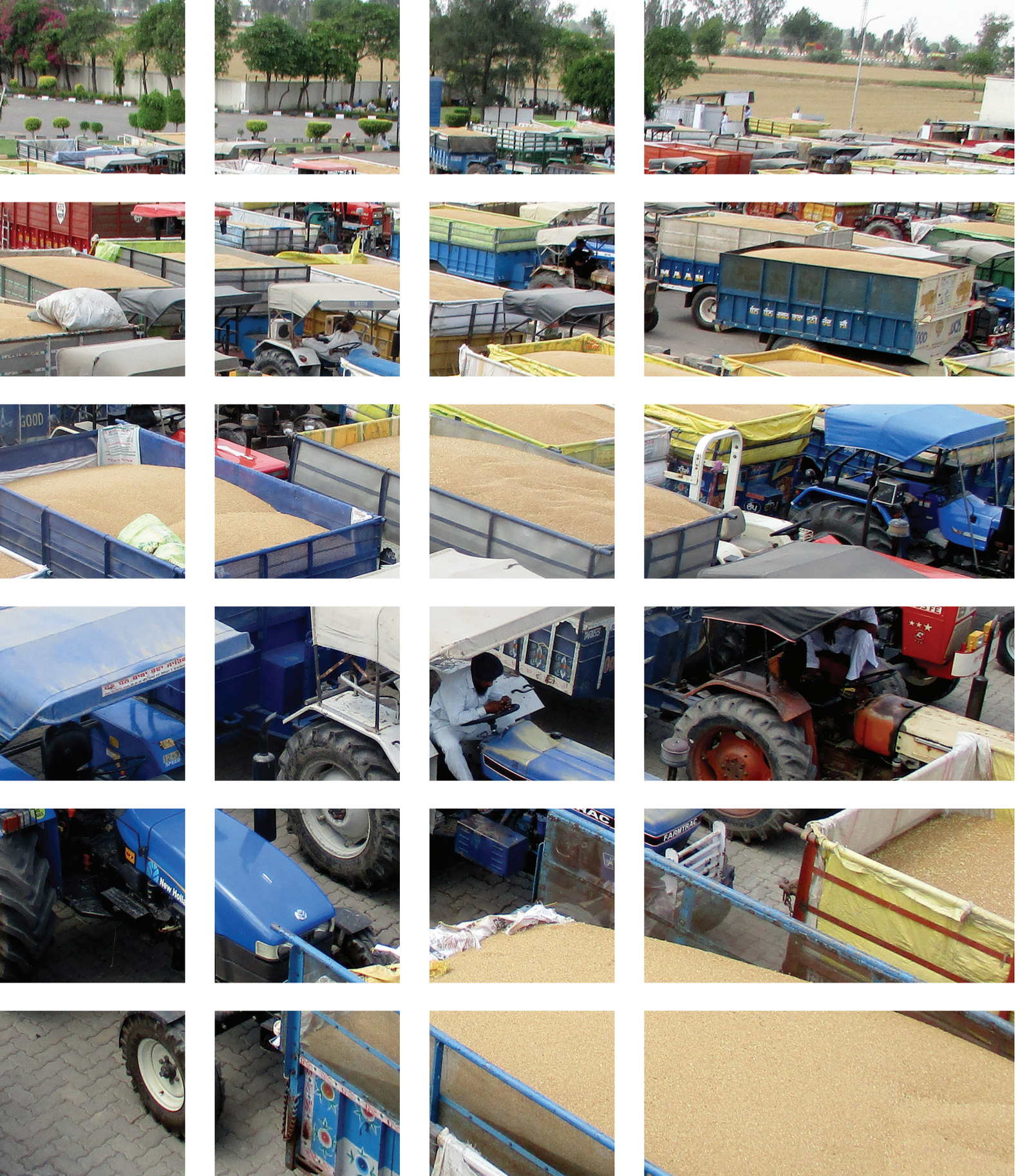












DEPARTMENT OF FOOD AND PUBLIC DISTRIBUTION

Transformation of a Nation's Lifeline: Optimizing Food Security for 810+ Million People

The Department of Food and Public Distribution (DFPD), Government of India (GoI), ensures food security in one of the world's largest and most diverse countries through its Public Distribution System (PDS). India legally guarantees subsidized/free foodgrains to 67% of its population under the National Food Security Act. This translates to 810+ million beneficiaries, spread across mountains, deserts, plains, riverine belts, and coastal regions. Each year, 60+ million metric tons of foodgrains move through an extensive network of half a million last-mile stores called fair price shops (FPSs) and thousands of warehouses across 31 states/union territories. From a population standpoint, most of these states are larger than several European/African countries, and the largest is bigger than the sixth-largest country globally. By scale – as well as reach and societal importance – PDS is arguably the largest and most complex food supply chain that has ever existed, worldwide. Most important, for millions of vulnerable households, it is their only lifeline.

Over the decades, PDS supply chains evolved organically through decentralized, state-specific practices rather than coherent planning. Although this respected India's federal structure and local contexts, it led to systemic inefficiencies. These included network planning driven by administrative boundaries or proximity rules instead of systemic optimization; FPS assignment changes creating operational instability; disputed transport costs; and fragmented, inconsistent data on capacities, demand, and geolocations. Complexity increased furthermore as states followed distinct operational models – varying by commodity, supply chain structure, and loading points – and relied on multiple agencies. Aligning such diverse stakeholders and transitioning from manual, estimates-based decisions to a data-driven, operations research (O.R.) and analytics-led approach was thus both

a significant challenge and a critical prerequisite for sustainable transformation.

The development of Anna Chakra – a nationwide supply chain optimization tool – brought together three ideal collaborators: DFPD, the nodal government authority; the United Nations World Food Programme (WFP), the leading global humanitarian organization; and the Indian Institute of Technology (IIT) Delhi, Delhi's premier academic and research institution. DFPD served as convener and implementing authority, ensuring policy alignment and nationwide coordination. WFP contributed food-security domain expertise and global experience in supply chain design, and IIT Delhi provided technical leadership in O.R., analytics, and digital tool development. Together, a 35+ member multidisciplinary team built customized solutions to optimize 31 distinct supply chains. This tripartite collaboration ensured that solutions were not only technically sound but also operationally feasible and policy relevant.

The journey began with a pilot program in 2018 – which expanded to four states – and demonstrated tangible improvements. Building on pilot learnings, nationwide optimization was completed in the remarkably short time of one year, culminating in 2023. Speed was critical because this involved ongoing foodgrain delivery at a tremendous scale, something no government would dare disrupt because of the potential impact. The following year focused on implementation, tool development, and institutionalization, leading to a 2024 national launch, presided over by the Honourable Cabinet Minister Shri Pralhad Joshi. Over the past year, states have owned and actively used Anna Chakra for self-driven optimization, extending its impact well beyond the initial rollout.

The novelty of Anna Chakra lies in its nationwide optimization of a running public system – an endeavour fundamentally different from private-sector, single-organization optimization.

It is among the first known examples globally of O.R. being institutionalized at nationwide scale to optimize a sovereign public food-security supply chain. The solution had to balance scale, explainability, and implementation opportunity, ensuring that sophisticated analytics translated into actionable, on-the-ground decision-making. From the beginning, adoption and trust were as important as the underlying mathematics and followed a field-to-lab-to-field cycle. This ensured an understanding of the realities of implementation, model development, and refinement employing user feedback, all while leveraging governmental administrative and WFP domain expertise.

This project consciously chose optimization as the core analytical framework to address decades of haphazard movement planning and the lack of consistent, source-destination decisions. The mixed integer linear programming approach ensures efficiency through optimality, feasibility through constraints, and clarity through explicit decision variables. It naturally handles supply-demand imbalance; enforces key FPS requirements; and enables fair, transparent transportation assignments, making outcomes acceptable to administrators, districts, and transporters. Several innovations are introduced within this framework. The supply chain is divided into two legs optimized sequentially to realize stability and state-specific requirements such as intradistrict movement, warehouse utilization norms, and commodity-specific rules. Contextual heuristics are developed to improve solution efficiency, overall introducing increasingly matured analytics. High-quality data underpins the solution: capacities, demands, inventories, and geolocations are drawn from official records and cleaned across multiple iterations, thereby institutionalizing reliable datasets. Road distances are sourced from PM GatiShakti, a nationwide geospatial and logistics platform pioneered and promoted by leading decision-makers, which enhanced credibility and stakeholder acceptance.

To translate models into action sustainably, Anna Chakra integrates data management, optimization, analytics, and reporting with role-based access for states and districts where they upload familiar templates and optimize and finalize movement plans for all commodities. Hosted on state-owned servers after due security audits, Anna Chakra is now institutionalized and actively used for ongoing, data-driven foodgrain movement.

The impact of Anna Chakra has been phenomenal. States themselves have reported annual cost savings exceeding INR 2.5 billion, or more than USD 27 million. These efficiencies also yield environmental benefits, with an estimated 35% reduction in carbon emissions. Beyond numbers, Anna Chakra has demonstrated the transformative power of O.R. in public systems – shifting decision-making from estimation to evidence; improving transparency, accountability, and delivery timelines; strengthening institutional capacity; aligning national priorities; and impacting multiple sustainable development goals. This resulted in strong national recognition: it won the prestigious CDSA-ORSI Excellence in Management Science and Analytics Practice Award, and it received a generous half-page appearance in the National Economic Survey. It would be a travesty for such a transformative solution to remain restricted. In collaboration with WFP, the solution has already been piloted in Africa and Asia, demonstrating strong potential for global impact and replicability.

In conclusion, Anna Chakra represents a rare and powerful transformation of a complex legacy public system. It combines technical excellence with sustained stakeholder engagement and governance leadership. Neither requiring capital expenditure nor envisaging additional infrastructure development, and yet yielding immense economic, social, and environmental value, it stands as a replicable framework for applying O.R. and analytics in public systems.

These digital wheels of food security now run at the national scale, hold the promise of powering transformative change across sectors nationally, and are ripe for global expansion.

ORGANIZATIONS

The Department of Food and Public Distribution (DFPD)

DFPD is responsible for the procurement, storage, and distribution of foodgrains through PDS – the largest food-security programs in the world, with 810+ million beneficiaries – safeguarding food access for vulnerable populations across India.

Indian Institute of Technology (IIT) Delhi

IIT Delhi is a premier Indian academic institution and is internationally recognized for excellence in technological and interdisciplinary research, with strong capabilities in O.R., analytics, and public systems.

United Nations World Food Programme (WFP)

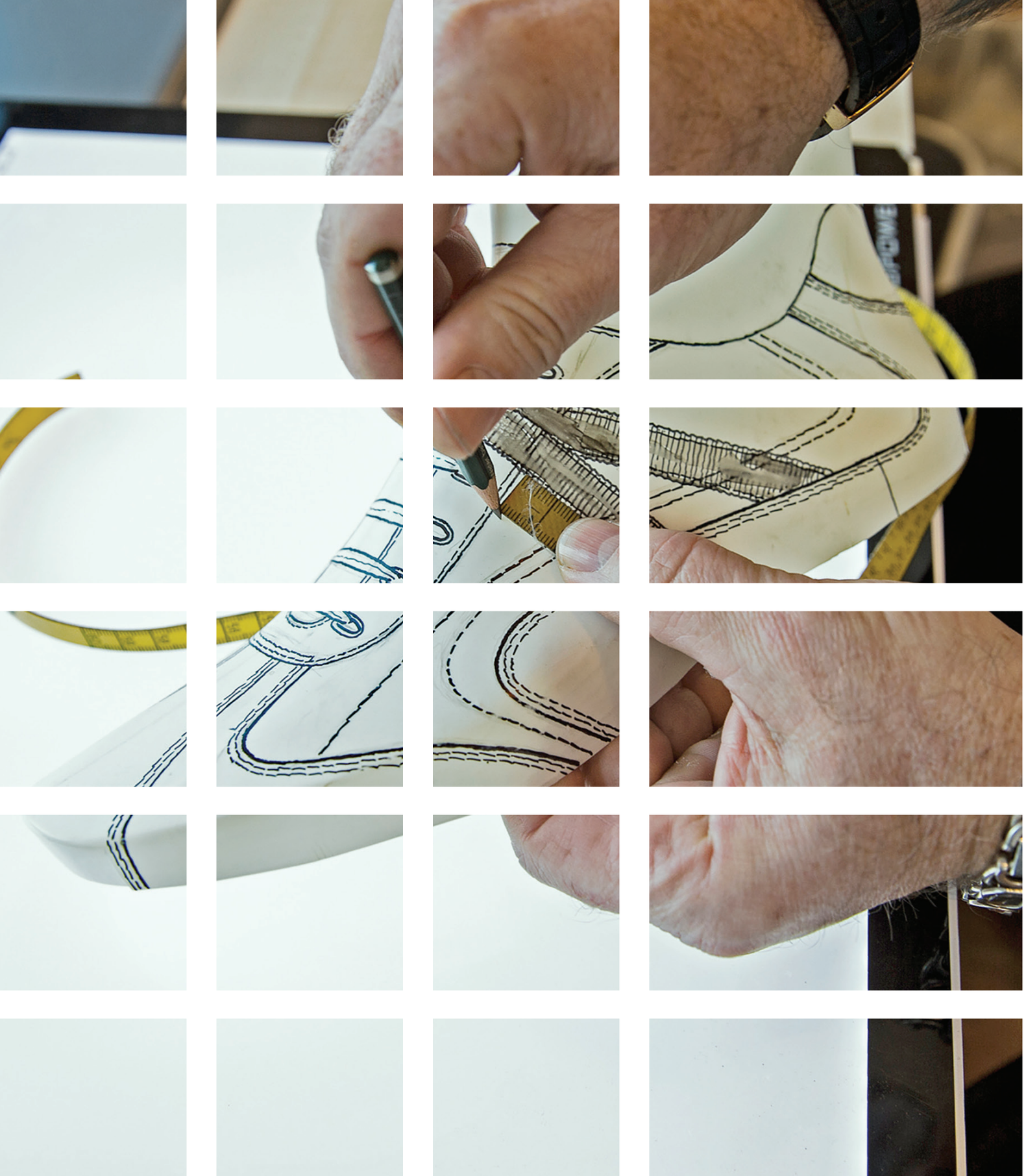
The United Nations WFP is the world's largest humanitarian organization for food security. Operating in over 120 countries/territories, WFP provides food assistance, policy support, and technical expertise to governments and partners worldwide.











ECCO

One Step Ahead: How Intelligent Auto Replenishment Paved the Way for A Data-Driven Transformation at ECCO

Inventory management is the heartbeat of retail operations, but for ECCO, it presents a unique set of challenges. Unlike typical fashion retailers that source finished goods from third parties, ECCO operates a vertically integrated "cow-to-shoe" supply chain. The company controls every step of the process, from its own tanneries producing raw leather, to its factories, and finally to retail shelves across its massive global network. Although this vertical integration offers quality control, it introduces significant rigidity; production decisions regarding raw materials must be made months in advance, making the supply chain highly sensitive to volatility.

In 2010, ECCO shifted strategically from a franchise model to owning and operating its stores, taking direct responsibility for global replenishment. For years, this massive network was managed by regional allocators relying on a manual legacy system known as "1:1 replenishment." This heuristic functioned as a static "base-stock" policy: if a store sold one pair of shoes, the system triggered an order to replace exactly that pair.

Although simple, this system was fundamentally flawed for a modern global enterprise. It was inflexible to demand, failing to react to seasonal peaks (such as high demand for sandals in summer) or shifting fashion trends. It also lacked financial awareness; the system would relentlessly replenish stock even as a season ended, leaving stores with obsolete inventory that required costly markdowns and return transportation. As ECCO's operations scaled, this manual,

fragmented approach was hurting profitability, creating a critical need for a centralized, automated solution that could financially optimize decisions for the entire network.

To solve this, the company developed Intelligent Auto Replenishment (IAR), a fully automated, data-driven optimization product. IAR is not merely a replacement for manual replenishment; it is a holistic ecosystem designed to maximize network-wide profitability from store replenishment operations.

The foundation of IAR is a "common data platform" that ingests and harmonizes fragmented data from various legacy enterprise resource planning systems into a single source of truth. Upon this foundation, the team built a specialized forecasting engine. Forecasting for footwear is notoriously difficult due to "intermittent demand," as a specific size of a specific shoe color might sell only sporadically at a single location. Traditional forecasts that predict an average (e.g., 0.1 pairs per week) are insufficient for a robust replenishment engine. Instead, IAR utilizes light gradient boosting machine models to generate probabilistic forecasts. These models predict a full distribution of potential demand scenarios (e.g., a 20% chance of selling zero units, a 50% chance of selling one), allowing the system to mathematically quantify the risk of replenishment decisions.

The core decision-making engine is a rolling horizon stochastic mixed-integer programming model. Unlike the legacy system's static rules, this model dynamically balances three competing financial penalties: the cost of lost sales (stockouts), the cost of holding inventory, and transportation costs. It optimizes replenishment for a protection horizon while simultaneously looking ahead to the end of the season. This ensures the system automatically aggressively pushes stock during peak season but tapers off replenishment as the season closes to minimize obsolescence.

Solving this complex mathematical problem for millions of stock keeping units within the strict four-hour operational window between store closing and warehouse opening required a breakthrough in computational efficiency. The team developed a novel decomposition technique called "Divide & Conquer Big M Tightening." This method is applied as a pre-processing step and breaks the global problem into thousands of independent subproblems to calculate tight bounds for big M constraints, allowing the main global optimization to be solved to optimality within operational time limits.

The implementation of IAR has delivered transformative results across financial, operational, and cultural dimensions.

Financially, the system has proven its value through rigorous parallel testing. By running a heuristic model that mimics the legacy system alongside IAR, ECCO demonstrated a conservatively estimated 1.09% reduction in total operational costs. Given ECCO's scale, where inventory values run into the hundreds of millions of dollars, this efficiency gain translates directly into millions of dollars in realized annual savings. Remarkably, the system achieves this with high computational efficiency, incurring a cloud computing cost of less than $0.01 per replenishment order.

Operationally, IAR has become the backbone of ECCO's retail network. In 2025, the system autonomously generated nearly 3 million optimal replenishment orders. It has achieved a 90% reduction in manual workload, freeing allocators from repetitive data entry and allowing them to focus on strategic tasks such as assortment planning and performance analysis. The system now manages store replenishment for over 550 stores across 28 countries, ensuring that a unified, mathematically optimal strategy replaces fragmented local decision-making.

Culturally, perhaps the most significant impact of IAR is the organizational transformation it catalyzed. What began in 2017 as a pilot initiative by a small team has evolved into a fully fledged corporate department, "Data & AI," led by a vice president. IAR served as the critical proof point that advanced analytics could be operationalized at an enterprise scale, legitimizing operations research within the company.

This success has paved the way for a suite of new optimization products, including warehouse replenishment, e-commerce fulfillment, dynamic airfreight optimization, and many others. By successfully combining advanced analytics with scalable cloud architecture, IAR has not only optimized ECCO's supply chain but also laid the foundation for a future defined by automated, data-driven operations.

ORGANIZATIONS

ECCO

Founded in 1963 in Bredebro, Denmark, ECCO is a family-owned global enterprise specializing in premium leather footwear and accessories. It is one of the few major shoe manufacturers in the world to operate a vertically integrated "cow-to-shoe" supply chain, controlling every step of the process from its own tanneries and leather production to its factories and retail shelves. The company has grown gradually from a small local business into a global enterprise while remaining entirely family owned.

ECCO Data & AI

ECCO Data & AI (formerly known as ECCO Sneaks & Data) was established in 2017 as an internal technology hub and consultancy with a mission to digitalize ECCO's decision-making processes. Starting as a pilot initiative with just two employees, it has evolved into a core corporate function responsible for advanced analytics, machine learning, and operations research across the enterprise. In 2025, the unit was elevated to a vice president-led department, employing over 20 specialists in operations research, data science, machine learning, data engineering, and platform erngineering. The department is responsible for developing and maintaining the suite of optimization products that now power ECCO's global supply chain and retail operations.











GOOGLE

Analytics for Effective Carbon-Aware Compute Shifting Across Google Data Center Fleet

Google's worldwide launch of the first-of-its-kind version of the carbon-intelligent computing platform was announced in April 2020. A year later, in June 30021, Google hosted the first workshop on carbon-aware computing. This sparked a tremendous amount of interest and hope that computing could be used as a flexible energy asset to reduce grid-level CO_2 emissions. Soon afterwards, other large compute providers (Microsoft, Meta, etc.) announced their own approaches for introducing carbon awareness into compute management. Many projects spun off across academia and industry, and the area of carbon-aware computing became a featured topic at conferences hosted by INFORMS, Sigmetrics, and ACM e-Energy. Related terms – such as sustainable computing and green computing – have been highlighted in the media, with additional support from their designated scientific communities and funding programs. Given that much of the recent acceleration in electricity demand worldwide can be attributed to the rapid growth of compute usage, data center flexibility can play an important role in making better use of the available clean energy on the grid. Through services such as demand reduction, it can improve its stability and resiliency.

Before carbon-aware computing, Google and many other companies pledged their climate commitments through carbon neutrality, where annual renewable energy purchases matched the organization's annual use of energy. To better connect climate goals to real-world grids, Google recognized a need to change its

approach. To achieve this, Google data centers have been built closer to carbon-free energy sources, such as solar and wind farms. With the carbon-aware load management, the flexible compute workloads are being shifted to time frames and locations that better align with available lower-carbon generators.

The platform built to support carbon-aware load shifting originally harnessed the temporal flexibility of Google-internal workloads that can tolerate delays (examples include data collection, machine learning, simulation, and data processing pipelines). The time for accomplishing this was just right. The company Electricity Maps could provide accurate carbon intensity data for all grids where Google data centers resided, while Google's scalable infrastructure, virtualization, and migration mechanisms were in place, allowing this controllability at scale.

Using a deep understanding of the energy domain, Google's power infrastructure, and the internal system for managing computing tasks – and how these systems interact – a small cross-functional team originally developed a novel load-shaping mechanism. Led by two passionate research scientists, the team created a model-driven solution that is effective, adaptive, scalable, and compatible with existing infrastructure. At the same time, the newly deployed approach significantly differed from previous theoretical treatments published in academic papers. These traditional treatments typically focused on changes in the real-time scheduling of computing tasks, which are not practically feasible nor scalable for hyperscalers. Without the outstanding cross-team collaboration between data scientists, software and hardware engineers, and program managers contributing from different parts of Google's Technical Infrastructure organization, this novel new system could not be designed nor the business impact justified and then implemented, all in less than 1.5 years. In the words of Google's Chief Sustainability Officer Kate Brandt, "The carbon-intelligent computing platform opens a new frontier in data center sustainability and energy management. With a small team of engineers, a first-of-its-kind system was built that enables many compute tasks to occur when lower carbon power sources are available. This new approach will be critical in achieving our goal of 24/7 carbon-free energy."

The original platform established design principles for evolving Google's load flexibility systems with both sustainability and efficiency goals in mind. Over the years, the analytical pipelines were extended, and new coordination mechanisms among the existing system components were developed. More accurate models of workloads' spatial flexibility enabled shifting more load more effectively both in time and across locations. The system today intentionally fills power- and carbon-efficient computing clusters at cleaner data center locations. As a result, Google data center fleet's carbon footprint is currently reduced by 30,000 metric tons of carbon dioxide equivalent per year when compared with the unshaped load. Whenever possible, power-intensive flexible workloads migrate from the "dirtiest" to the "cleanest" data center locations using the placement hints and load-shaping guidelines produced by the analytical pipelines. In addition, the system's optimization-based control reduces peak power and resource usage, providing hundreds of megawatts (MW) of additional power capacity to run more computing through existing data centers, which delays having to build new data centers. Furthermore, by reducing power demand when and where needed (on average, 5 MW per data center), Google data centers have supported electricity grids in times of need since 2021. Demand response capability is increasingly becoming a required capability for attaining power grid capacity for future computing needs.

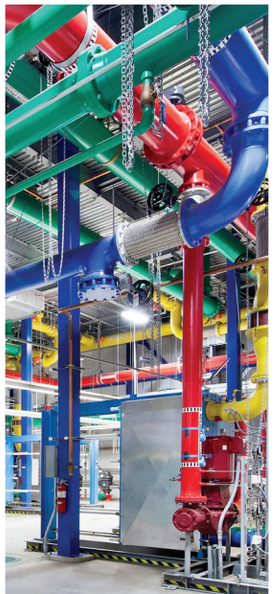
The recent surge in data center power demand, primarily driven by AI growth, brings emerging challenges and opportunities for data centers/grid interactions that will have a profound impact on the future of our energy system, facilitate faster interconnection to constrained grids, and manage the impact on the cost of electricity, all while helping to decarbonize the overall energy supply. Google's foundational models and design principles for carbon-aware and peak load shaping have inspired other compute providers to navigate through different constraints of their workloads and systems and play their role in enabling a low-carbon, affordable, and reliable electricity supply. These include Microsoft's carbon-aware Kubernetes, VMware's carbon-aware Global Server Load Balancer, Meta's Carbon Explorer, and Emerald AI's software-defined flexibility.

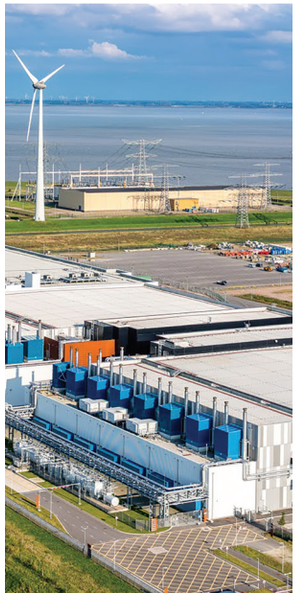
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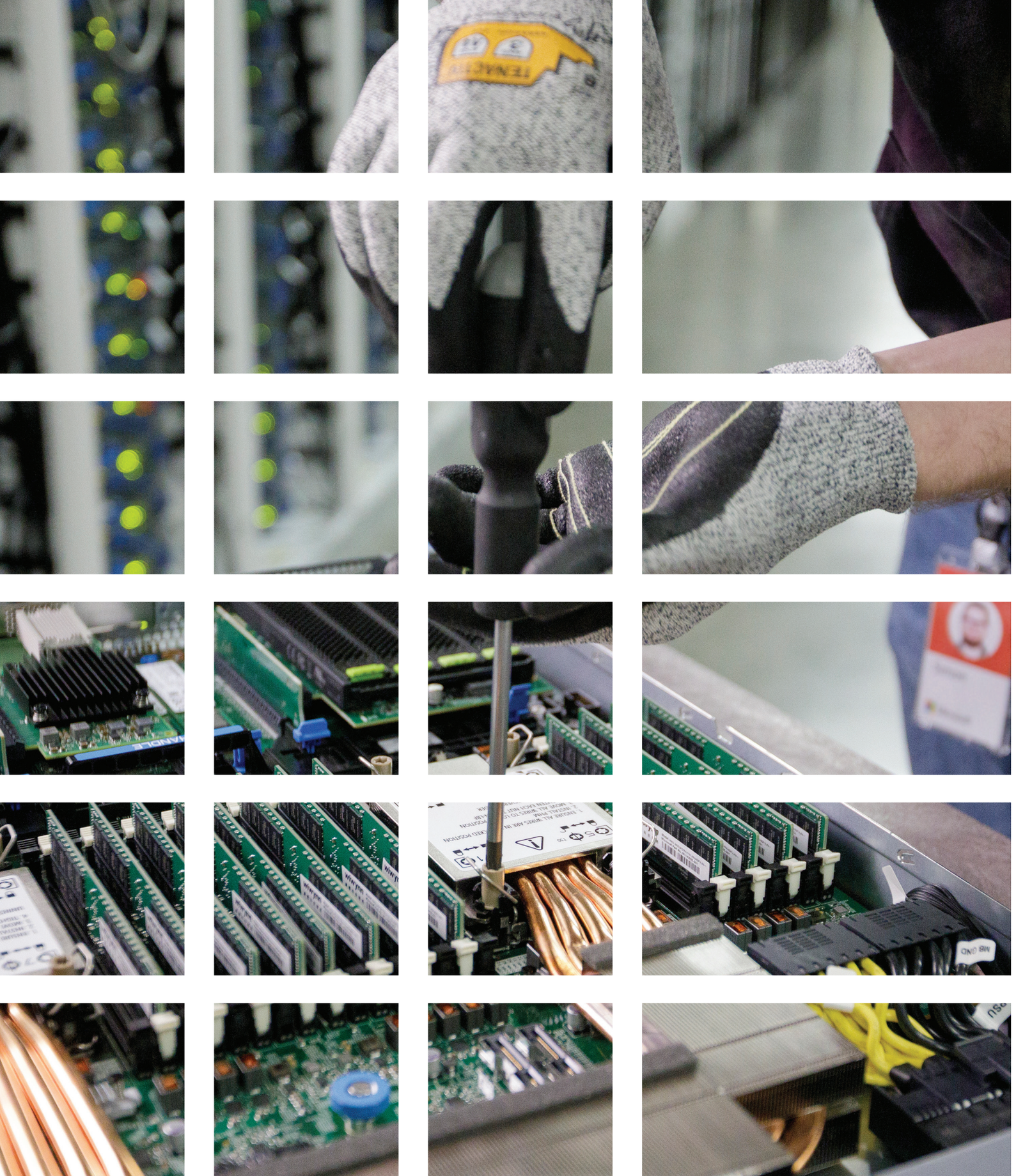
Google

Google's mission is to organize the world's information and make it universally accessible and useful. Through products and platforms like Search, Maps, Gmail, Android, Google Play, Google Cloud, Chrome, and YouTube, Google plays a meaningful role in the daily lives of billions of people and has become one of the most widely known companies in the world. Google is a subsidiary of Alphabet Inc.



MICROSOFT

Microsoft Cloud Supply Chain: Democratizing Hyperscale Optimization for Cloud Fulfillment

With 34% annual growth and over $75 billion in revenue in fiscal year 2025, Microsoft Azure, the cloud computing platform developed by Microsoft, has reached unprecedented scale, operating more than 400 data centers across over 70 regions. This expansion has been dramatically accelerated by the AI transformation. Adding capacity is not enough to support the demand surge; the company must deliver the right resources at the right time to the right place. This raises a critical question: How can Microsoft deliver cloud capacity faster, more efficiently, and on a global scale?

In 2019, Microsoft Cloud Supply Chain and Microsoft Research launched a multiyear collaboration to answer this question. The journey to deliver cloud capacity begins nearly two years before hardware lands in a data center. It begins with long-term demand forecasts that guide procurement decisions, including opening data centers, setting contracts with suppliers, and securing internal financial approvals. The focus of our work is the fulfillment phase – installing data center capacity. Fulfillment operates on a quarterly horizon, processing thousands of demand requests from both external customers and internal services such as Azure, Office, Teams, and Bing. Our operational team translates customer needs into requirements – including the hardware product family and quantity, the target region, and the due date for the capacity to go live.

Then, the fulfillment team makes a series of interdependent decisions for each demand to determine supplier, data center, and timeline. These decisions are constrained by hardware and data center compatibility, inventory levels, data center labor availability, and limitations on power and space. At the same time, the system must prioritize hot demands, maximize on-time deployments, reduce shipping costs, efficiently manage billion-dollar hardware inventory, and avoid data center resource fragmentation. At the center of this process are business experts that shepherd all fulfillment plans, adjusting them if needed.

Before 2020, Microsoft's cloud fulfillment relied on manual, spreadsheet-driven processes, which were quickly overwhelmed by spiking demand and complexity. To address compounding delays, human overload, and suboptimal decisions, we embarked on the journey to reinvent fulfillment. At the heart of this transformation lies the Intelligent Fulfillment Service (IFS), a novel integration of mathematical optimization and generative AI that optimizes and explains cloud hardware shipment planning at scale.

Because processes had historically been manual, our first challenge was to precisely define the optimization problem we needed to solve. Working closely with business and supply chain planners, we uncovered many implicit constraints and objectives embedded in tacit knowledge, enabling us to design a solution with mixed-integer linear optimization. New business requirements, expansion to cover all demand resources, and a dramatic increase in the demand and supply volume led to substantial scale challenges. These dynamics were largely driven by the rapid acceleration of graphics processing unit (GPU) deployments to support the AI transformation. To achieve scale, we designed a decomposition approach that balanced detailed decision-making with online responsiveness.

We decoupled the master problem of our fulfillment algorithm into a primary resource allocation phase and a secondary dock scheduling phase. The resource allocator makes daily global trade-offs across all demands and competing business policies yet retains enough timeline granularity to unlock high-quality schedules. Once the resource allocator selects specific racks, the docking scheduler uses refreshed production data and supply chain planner inputs to fine-tune data center and dock date choices with more specific constraints throughout the day. Combined with other techniques to prune the underlying resource matching graph and reduce symmetry, IFS scaled to accommodate the increasing demand without affecting solution quality. GPU allocation was onboarded in 2025, ultimately resulting in full coverage.

Yet, one challenge remained: trust. Business experts sought explicability for decisions, requesting the ability to explore additional scenarios: "Why was supplier A chosen over B for demand D1?" or "What if demand D2 docks a week earlier?" Given the interdependencies across decisions, such questions frequently required reoptimization and multiple rounds of interaction between planners and engineers, often taking over two days to resolve.

In early 2023, we designed OptiGuide, a large language model (LLM) framework for interacting with optimization technology. Within months, OptiGuide was deployed as the IFS AI assistant, marking the first productionized LLM in the cloud supply chain organization and opening its advanced decision-making tools to nontechnical users.

Since its launch, IFS has fundamentally transformed cloud fulfillment operations at Microsoft, delivering substantial financial and operational impact. Cycle times have been cut in half, resulting in tens to hundreds of millions of dollars in annual savings. OptiGuide has reduced the average response time to planners' questions from 2.5 days to near real time, leading to a significant reduction in the time spent by the fulfillment team and a corresponding 2.5-day decrease in planning time for associated demands.

Microsoft Cloud earned Gartner's 2023 Supply Chain Breakthrough of the Year and Process or Technology Innovation of the Year awards, ranking in the top 10 of Gartner's Global Supply Chain Top 25 for three consecutive years. The success and visibility of this work inspired other organizations across Microsoft to take steps toward automation and optimization of their processes. Our work on GenAI for explainability further amplified this momentum, becoming a reference point for several internal initiatives. Externally, this work has attracted significant attention from both academia and industry and was featured in Gartner and the *Harvard Business Review*.













ORGANIZATION

Microsoft

Microsoft creates platforms and tools powered by AI to deliver innovative solutions that meet the evolving needs of our customers. The technology company is committed to making AI available broadly and doing so responsibly, with a mission to empower every person and every organization on the planet to achieve more.



NVIDIA

Supply Chain Stability and Responsiveness at NVIDIA Using Operations Research and Artificial Intelligence

NVIDIA – world leader in AI and accelerated computing – reached a milestone in the evolution of its AI infrastructure with NVIDIA cuOpt, which transitioned mathematical optimization from traditional central processing unit-based execution to the parallel processing architecture of the graphics processing unit (GPU). Two decades after GPUs were first unlocked for general-purpose computing, the same technology now drives near-real-time planning for the very supply chain that produces them. By solving models with millions of variables in seconds, cuOpt provides the computational foundation required to manage the high-velocity requirements of modern global networks, where traditional planning methods can no longer keep pace.

As a company's products and services evolve, its demand-supply network often grows in scale and complexity. To stay ahead of this growth and enhance responsiveness, firms need smarter, more adaptive supply chain management (SCM) solutions. NVIDIA met this challenge by developing an AI planner – an intelligent SCM platform designed to maintain stability and agility at scale.

NVIDIA's AI planner is powered by a full stack of technologies, including the NVIDIA NeMo Agent Toolkit; NVIDIA Llama Nemotron Super 49B state-of-the-art reasoning model; NVIDIA NIM microservices; in-context learning with an NVIDIA Nemotron embedding model; and a GPU-accelerated, award-winning open-source decision optimization engine – NVIDIA cuOpt – optimized for NVIDIA's high-performance computing platforms.

The primary challenge lies in the sheer velocity and structural transformation of NVIDIA's business model. Scaling from $10 billion to $130 billion in annual revenue necessitated a shift from managing discrete component sales to orchestrating the delivery of massive, integrated data center systems. This transition introduced a multiechelon dependency network where a single missing component – among thousands of unique parts – could stall the deployment of an entire AI factory. It became clear that during this period of explosive growth manual planning operations and legacy workflows could no longer scale to meet the required velocity. Although commercial solvers were available, the strategic objective was to develop a proprietary, GPU-native optimization engine that could be deeply integrated into the AI planner. This allows for a unified ecosystem where high-performance reasoning and mathematical optimization work in tandem to provide a level of responsiveness that traditional, disconnected tools cannot achieve.

The underlying complexity of this network is rooted in a multi echelon supply ecosystem that spans five continents. The mathematical model must account for multi level bills of materials, where a single product may follow multiple, mutually exclusive configurations depending on the manufacturing site. This creates a combinatorial explosion of production pathways that traditional planning systems struggle to evaluate. Within these pathways, production ratios dictate strict many-to-many relationships between top-level products and bottom-level components, requiring absolute precision in material alignment to prevent cascading bottlenecks. Operational volatility is further intensified by manufacturing yield losses that are treated as independent variables updated weekly, necessitating the frequent recalibration of planned quantities at every stage. This instability is managed through complex component interchangeability and product substitution logic, where the optimal part or system is determined by real-time inventory levels and demand priorities.

The search space is further constrained by the physical realities of global manufacturing. Resource capacities are finite and shared across product lines, creating constant contention for production time. Furthermore, location and transfer constraints dictate that products can only be built at qualified sites and moved through validated lanes, limiting the flexibility of the network. These factors are complicated by the presence of coproducts and binned parts, which create tightly coupled dependencies where a single local decision impacts timing and material flow across the entire system. This vast interaction across tens of thousands of distinct stock keeping units (SKUs) causes the problem space to expand non linearly, resulting in real-world scenarios that routinely span millions of variables and constraints. To manage this, NVIDIA required a solution capable of simultaneously navigating the discrete logic of routing and bills of materials alongside the continuous nature of time-phased material flow. This requirement rendered manual approximations obsolete, as they could no longer offer the speed or the globally optimal truth necessary for modern execution.

The technical response to this complexity was the development of the AI Planner, a framework that integrates NVIDIA's supply chain logic within a highly sophisticated reasoning and optimization ecosystem. At its core, the solution utilizes a dedicated cuOpt modeling layer that transforms the vast array of global dependencies and production rules into a GPU-accelerated mathematical representation. This approach allows the system to navigate the distance between high-level strategic intent and granular execution, providing real-time, globally optimal recommendations that ensure the supply chain remains resilient.

Building on this foundation, the AI Planner democratizes access to these complex models through a natural language interface. Instead of requiring users to manually adjust parameters within traditional spreadsheet or solver interfaces, the system enables the execution of sophisticated scenarios via direct instructions. A planner could simply ask, "Rerun the Q3 plan assuming a 15% increase in wafer lead times and prioritize fulfilling top-tier CSP demand." The AI Planner interprets the intent, reconfigures the cuOpt modeling layer, and translates the resulting mathematical output back into intuitive business insights. Rather than presenting raw values or abstract objective functions, the system explains the reasons behind its recommendations, highlighting specific trade-offs and bottleneck shifts in a clear, understandable fashion. This capability empowers decision-makers to explore "what-if" scenarios at the speed of thought, ensuring the final execution plan is fully aligned with strategic business priorities.

The impact of this transformation is measured in the collapse of decision latency and a dramatic improvement in operational throughput. By replacing 5-day manual planning cycles with near-real-time optimization, NVIDIA has transitioned from a reactive supply chain posture to one of proactive orchestration. This shift has accelerated order fulfillment performance by up to 95% and expanded planning capacity more than 6-fold. This newfound velocity allows the company to absorb sudden market shifts, such as supply shortages or urgent demand surges, without compromising the stability of its long-term delivery commitments.

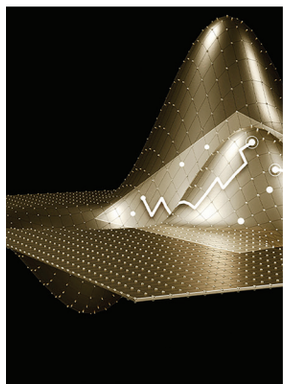
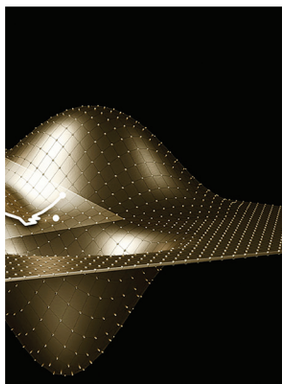
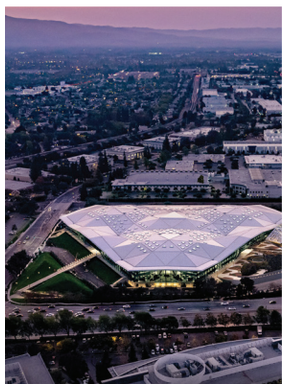
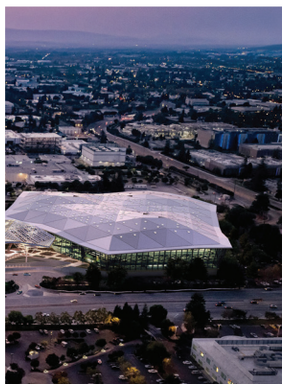
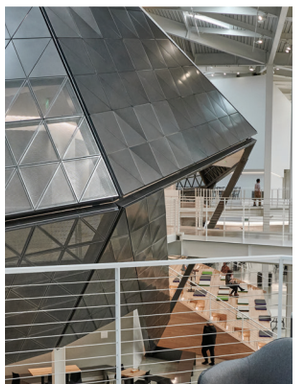
Ultimately, the AI Planner and cuOpt modeling layer have turned a once-formidable scaling challenge into a core strategic asset. For a business at the heart of the global AI revolution, this system provides more than just efficiency. It offers the absolute predictability and industrial stability required to power the next generation of global computing.

ORGANIZATION

NVIDIA

NVIDIA was founded in 1993 to tackle high-performance computing with an initial focus on 3D graphics but has since expanded into a full-stack accelerated computing platform. NVIDIA AI infrastructure has enabled a new generation of computational intelligence, from modern AI to mathematical optimization.



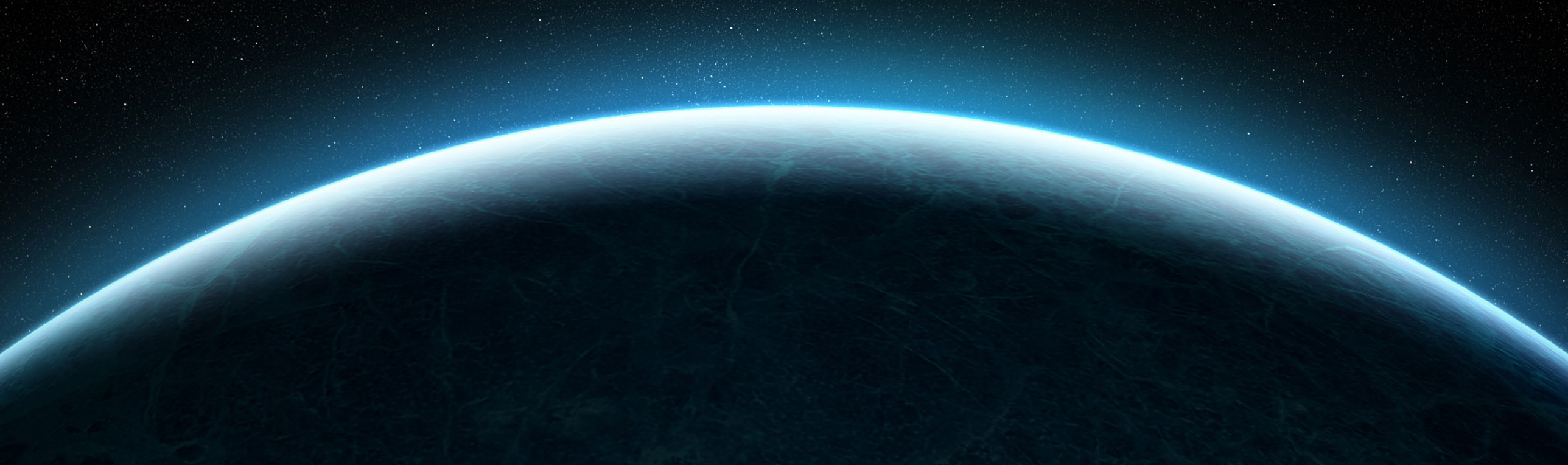

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INFORMS EARLY CAREER PRACTITIONER AWARD

EARLY CAREER PRACTITIONER AWARD

The INFORMS Early Career Practitioner Award was created to engage and recognize early career professionals in the fields of operations research, management science, and advanced analytics for their exceptional contributions to business/industry, government, and consulting, and service to the profession.

INFORMS acknowledges the distinct needs of practitioners and has strategically prioritized addressing their professional growth throughout their careers. The award seeks to acknowledge individuals who have made significant contributions within the initial five years of their post-graduation employment and currently working outside of academia.

INFORMS Early Career Practitioner Award Criteria

"Early career practitioner" refers to an INFORMS member who is no more than five years post-graduation of their highest degree, has at least two years of industry experience, and is currently working outside of academia. Full-time practitioners with adjunct academic appointments are also eligible for this award. Prize criteria include:

- Evidence of professional accomplishments, leadership, and service to the profession, or
- Quantifiable or demonstrable impact of work to influence practice, policies, and body of knowledge within the organization or industry;
- Creativity – level of originality, novelty, or practicality of contributions;
- Demonstrable contributions to disseminating OR/MS and advanced analytics knowledge within the organization or industry; and
- Evidence of successful collaboration within multidisciplinary teams.

2025 INFORMS Early Career Practitioner Award Committee

- Shantih Spanton, *Chair, INFORMS Early Career Practitioner Award; Manhattan Associates*
- Mike Cavaretta, *Ford*
- Carol DeZwarte, CAP, *Chewy*
- Bill Klimack, CAP, *BP*
- Morvarid Rahmani, *Georgia Tech*
- Ziteng Wang, *Northern Illinois University*

2026 EARLY CAREER PRACTITIONER AWARD WINNER



Growing up in the Yimeng Mountain area of China, Lili Zhang and her family firmly believed that "knowledge is power." She inherited her passion for learning from her parents. Beginning at the age of six, she read books every night before bed, especially about math, often falling asleep with a book open. Early in her academic studies, her path in engineering was inspired by her uncle, an engineer and director of a local water conservancy bureau, as well as her cousin, an engineer, professor, and entrepreneur.

Lili earned her bachelor's degree in electronic information science and technology from Central South University in China, master's degree in industrial engineering from the University of Tennessee, Knoxville, and PhD in analytics and data science from Kennesaw State University. Her interdisciplinary studies and research experience have provided her with a robust foundation in developing intelligent and scalable data-driven analytical solutions for a wide range of challenges across various domains.

Lili joined Hewlett Packard Enterprise (HPE) in 2020 after completing her PhD. In the same year, HPE significantly expanded the HPE GreenLake Cloud Platform to include a broad array of new cloud services, addressing the growing market demand for hybrid cloud, delivering edge-to-cloud services, and accelerating customers' digital transformations with innovative solutions in hybrid cloud, AI, storage, computing, and networking. To better understand customers' evolving needs, increase the awareness and adoption of HPE products and services, and enhance customer experiences, Lili led the design, development, and implementation of numerous AI/ML and data science initiatives. She leverages her expertise in imbalanced learning, knowledge graphs, optimization, large language models, Markov chains, and propensity scoring.

Lili's work has significantly contributed to the success of various business areas within HPE, including Digital Marketing, Customer Innovation Center, Third-Party Maintenance Win-Back, and solution teams such as HPE GreenLake and HPE Aruba Networking. Notable examples of her contributions include enabling digital marketing teams in executing successful persona-based audience targeting campaigns, informing executives on optimizing media budget allocation to enhance awareness and conversions, aiding the service team in winning back customers, improving customer event strategies, and engaging customers with customized content to increase the adoption of HPE solutions.

Lili is not only a leader in her field but also a compassionate and dedicated mentor to help others grow. She has been recognized with the 2023 KSU Alumni Service Award.

Currently serving as a senior AI and machine learning engineer at HPE, Lili is consistently driving the adoption of cutting-edge technologies to foster innovation, enhance business value, and ensure customer success.

AD SPACE

UPS GEORGE D. SMITH PRIZE

UPS GEORGE D. SMITH PRIZE HISTORY

The UPS George D. Smith Prize is awarded to an academic department or program for effective and innovative preparation of students to be outstanding practitioners of operations research, management science, or analytics. It is accompanied by a $10,000 award. The prize committee is pleased to announce the 2025 finalists:

- Master of Science in Analytics
  Georgia Institute of Technology
- Industrial Engineering and Management Sciences (IEMS)
  Northwestern University
- Operations Research Program
  United States Military Academy

The UPS George D. Smith Prize is an exciting award created in the spirit of strengthening ties between industry and the schools of higher education that graduate young practitioners of operations research (O.R.) and analytics. This prize has been named in honor of the late UPS chief executive officer who was a patron of operations researchers at the leading Fortune 500 corporation. George D. Smith was the second CEO of UPS, holding the position from 1962 to 1972. He joined UPS as an accountant in 1925 and at some point in his long and illustrious career held almost every functional title within the company.

While his background was steeped in finance, George Smith had a keen engineering mind. In the late 1940s, after learning about O.R., Smith realized that intuition alone would not be enough to help UPS master the many issues it faced as it grew in size from a regional to nationwide carrier. Smith recognized O.R. as an engineering approach to making decisions and started advocating the use of O.R. concepts at UPS. Quantitative analysis became the bedrock on which the UPS engineering function was built. Because of Smith's vision, UPS now employs thousands of engineers whose focus is efficiency, sustainability, and service.

He was a strong believer in investing in our younger generation. For him, nurturing them was the key to sustained prosperity. This prize embodies Smith's beliefs: to recognize the importance of O.R. in practice and ensure that members of our younger generation get proper exposure to its value and, in turn, benefit society.

2026 UPS Smith Prize Committee

- Anne Robinson, *Chair, Smith Prize*
- Fidel Rodriguez, *Vice-chair; LinkedIn*
- Dayana Cope, *Delta*
- Michelle Li, *MIT*
- Steve Sashihara, *Princeton Consultants*
- Samaneh Shiri, *UPS*
- Jay Swaminathan, *University of North Carolina*
- Morgan Swink, *Texas Christian University*



























2026 SMITH PRIZE COMPETITION

Since the earliest days of operations research (O.R.) and analytics, to support the developing technology and research, it became increasingly important to prepare young O.R. and analytics professionals to further the growing impact of these fields. The UPS George D. Smith Prize recognizes the importance of a strong partnership between industry and academia in preparing students to be effective practitioners. The diversity, quality, and innovation of this year's finalists presented the committee with an encouraging and exciting glimpse of the future of the profession.

"As we grow in size, our problems increase geometrically. Without operational research, we would be analyzing our problems intuitively only, and we would miss many opportunities to get maximum efficiency out of our operation." – George D. Smith

SMITH PRIZE PAST WINNERS

2025 Master of Science in Business Analytics
National University of Singapore

2024 Management Science Department
University of South Carolina

2023 Mitchell E. Daniels, Jr. School of Business
Purdue University

2022 Master of Industrial & Applied Mathematics
Eindhoven University of Technology

2021 Tippie College of Business
University of Iowa

2020 Smith School of Business
Queen's University

2019 Department of Operations, Business Analytics & Information Systems
University of Cincinnati

2018 Haslam College of Business MSBA
University of Tennessee

2017 Operations Research Program
United States Air Force Academy

2016 H. John Heinz III College of Information Systems & Public Policy
Carnegie Mellon University

2015 Sauder School of Business
University of British Columbia, Centre for Operations Excellence

2014 Leaders for Global Operations
Massachusetts Institute of Technology

2013 Department of Operations Research
Naval Postgraduate School

2012 Tauber Institute for Global Operations
University of Michigan

Georgia Institute of Technology

Master of Science in Analytics



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- World-renowned experts teach leadership, ethics, change management, and more.

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- OMSA: Engage actively with a vibrant student and faculty community, supported by proactive advising.
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2026 UPS George D. Smith Prize Finalist

A Pipeline from Education to Industry

Foundations in operations research and analytics

- Optimization, statistics, machine learning, stochastic analysis, and simulation
- Whole-brain engineering principles
- Central focus on making decisions with data and models

Industry-embedded curriculum

- Client project challenge (UG)
- 8-month practicum & capstone (MLDS)
- Business lab simulation (MEM)

Immersive real-world experience

- 100+ industry projects per year
- Internships across tech, finance, logistics
- Faculty with business experience, from CEOs to technical roles, from firms to start-ups

Proven industry outcomes

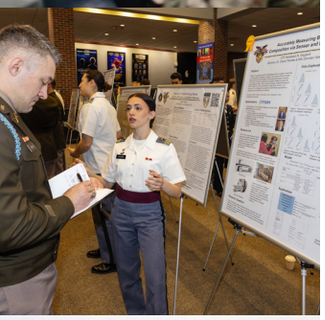
- High placement in data science, operations research, consulting, banking/finance, product management, and operations.
- Large % in management roles within 5-10 years

United States Military Academy
Department of Mathematical Sciences

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REAL WORLD MISSION

The United States Military Academy's mission is to develop leaders of character to serve the Nation. The Operations Research (OR) Program supports this mission by preparing cadets to apply analytical reasoning to decisions where outcomes carry operational and human consequences. The Army recognizes the importance of this expertise through Functional Area 49 (Operations Research and Systems Analysis), a career field dedicated to cultivating analytical problem-solving for complex military challenges. West Point contributes to this need by building quantitative judgment early and deliberately across the curriculum.

RESEARCH WITH REAL STAKEHOLDERS

A defining feature is authentic, externally sponsored research. All majors complete a two-semester capstone with defense or industry partners and present at the annual Math Research Symposium, where cadets brief stakeholders, defend assumptions, and communicate recommendations under scrutiny.

OPERATIONS RESEARCH FROM THE FIRST SEMESTER

Every cadet receives an education grounded in operations research through the core mathematics course Data Driven Modeling. Introduced before calculus, the course emphasizes problem formulation, data analysis, uncertainty, and optimization, establishing habits of critical thinking and disciplined reasoning aligned with West Point's Academic Program Goals. These principles extend beyond mathematics. OR-based methods are taught across programs in Systems Engineering, Computer Science, Economics, and Engineering, reinforcing a shared intellectual framework for analyzing complex systems and making informed decisions. OR majors deepen this foundation through rigorous study in optimization, stochastic modeling, simulation, computational mathematics, and data science.

NATIONAL RECOGNITION

- Rhodes Scholars
- NSF Fellows
- Gates Cambridge
- MIT Lincoln Lab
- Draper Scholars
- Senior Army and industry leaders

Graduates have earned prestigious fellowships and serve with distinction across the Army, industry, and academia, prepared to lead ethically and make sound decisions when lives are at stake.

OPERATIONS RESEARCH PROGRAM
2026 UPS GEORGE D. SMITH PRIZE FINALIST

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THE WAGNER PRIZE

DANIEL H. WAGNER PRIZE HISTORY

For Excellence in the Practice of Advanced Analytics & Operations Research

The Wagner Prize is awarded annually in honor of the late Dr. Daniel H. Wagner. During his years as president and principal owner of Daniel H. Wagner Associates, Dr. Wagner brought many high-quality mathematicians into the operations research community. This led to significant advances in the firm's fields of endeavor and delivery of significant applications to the Navy, Coast Guard, and other clients. Many of the applications are still in service today.

Dr. Wagner earned his PhD in mathematics from Brown University in Providence, Rhode Island, in 1951. His dissertation, "On Free Products of Groups," was published in 1957 in the journal *Transactions of the American Mathematical Society*. Dr. Wagner joined the Navy's Operations Evaluation Group at the Pentagon, working on operations research for naval warfare. He worked there until 1956, with a one-year leave of absence for postdoctoral research on free algebras at Massachusetts Institute of Technology.

Dr. Wagner then joined the Burroughs Research Center, where he directed a group of mathematicians performing analysis for the development of digital computers.

In 1957, Dr. Wagner and John D. Kettelle formed the partnership of Kettelle and Wagner, which was dissolved in 1963. That same year, he formed a new company, Daniel H. Wagner Associates, Inc. This company applied itself to cutting-edge work in the mathematics of naval tactics, especially antisubmarine warfare, detection theory, and search planning.

After retirement from the firm he founded, Dr. Wagner held various teaching and research positions with the U.S. Naval Postgraduate School and the U.S. Naval Academy.

Dr. Daniel H. Wagner was a member of INFORMS (and its predecessor ORSA) for more than 40 years. He passed away in March 1997.

2025 Wagner Prize Committee

- James Cochran, *Chair, Wagner Prize; University of Alabama*
- Konstantina Mellou, *Vice-chair; Microsoft*
- William J. Browning, *Applied Mathematics, Inc.*
- C. Allen Butler, *Daniel H. Wagner Associates*
- Kimia Ghobadi, *Johns Hopkins University*
- Greg Godfrey, *Metron Inc.*
- Andrea Llorenty, *BNSF Railroad*
- Vera Tilson, *University of Rochester*
- Willem van Hoeve, *Carnegie Mellon University*
- Aysu Ozel, *Northwestern University (Student member)*

2025 WAGNER PRIZE FINALISTS

The 2024 Wagner Prize competition took place during the 2024 INFORMS Annual Meeting. Four teams gave presentations to the INFORMS Practice Section judging committee seeking to demonstrate that the quality of their analysis in a real-world application qualifies them to win this award for outstanding practice of operations research and advanced analytics. The judging committee announced the winner during the Annual Meeting, and the winning team of the Daniel H. Wagner Prize will reprise their presentation during the 2025 INFORMS Analytics+ Conference.

Dr. Wagner strove for strong mathematics applied to practical problems, supported by clear and intelligible writing. This prize recognizes those principles by emphasizing good quality writing, strong analytical content, and verifiable practice successes within analytics and operations research.

A special issue of *INFORMS Journal on Applied Analytics* will publish the winning paper along with those of the other three finalists listed below:

Optimizing Music Station Playlists on Broadcast Radio

- J. Antonio Carbajal, CAP; Juan Ma; Nannan Chen; and Mario Aboytes-Ojeda, *iHeartRadio*

Redesigning Zoning Systems for Equitable and Efficient Last-Mile Delivery at Ninja Van

- Stanley Lim, *Michigan State University*
- Witsanu Arntong and Ee Hsin Tan, *Ninja Logistics Pte. Ltd.*
- John Gunnar Carlsson and Han Yu, *University of Southern California*
- Sheng Liu, *University of Toronto*

Transportation Marketplace Rate Forecast Using Signature Transform

- Timothy L. Jacobs and Philip Kaminsky, *Amazon.com Inc.*
- Xin Guo, *Amazon.com Inc. & University of California, Berkeley*
- Haotian Gu and Xinyu Li, *University of California, Berkeley*













2025 WAGNER PRIZE WINNER

Rebalancing and Clearance Pricing of Near-Expiry Inventory in Meituan's Online Grocery Retail

Online grocery retailing has expanded rapidly, and platforms operate dense networks of micro-fulfillment centers (MFCs) to deliver orders within hours in urban markets. Meituan's Little Elephant Supermarket offers 30-minute deliveries from thousands of MFCs, processing millions of orders daily under stringent freshness and timeliness constraints.

Clearing Near-Expiry Inventory at Scale

Perishable inventory management remains a critical challenge, where mismatches between demand and shelf life can lead to substantial financial losses and food waste. Meituan refers to near-expiry inventory as items in the final clearance window before spoilage, often becoming unsellable within a single business day. In a decentralized network, near-expiry inventory is often asymmetrically distributed across MFCs due to stochastic demand and fixed service zones.

From Rule-Based Operations to a Closed-Loop System

Legacy systems typically rely on manual and predetermined markdown schedules with the absence of inventory transfers. This rigid framework fails to accommodate real-time demand changes and offers no flexibility to address imbalances across MFCs. To address the intertwined challenges of minimizing spoilage and recovering value, Meituan developed an integrated, data-driven framework that jointly optimizes nighttime inventory rebalancing and daytime dynamic clearance pricing. The solution replaces rule-based operations with a closed-loop learning-and-optimization system. Overnight, the rebalancing module determines transshipments across MFCs, while during the day, the pricing module uses real-time sales signals to generate bi-hourly clearance prices tailored to local conditions and remaining shelf life.

Since rollout across the nationwide network began in early 2024, the solution reduced spoilage rates by 20%, increased revenue from near-expiry inventory by 14%, improved annual profit by approximately CNY 50 million (~ USD 7 million), and saved approximately CNY 18 million (~ USD 2.5 million) in food waste across Meituan's MFC network.

Scan QR Code for more information on 2025 winners.

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FICO congratulates the finalists at this year's Edelman Gala. Your innovation and dedication to excellence continue to inspire us all.

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INFORMS PRIZE

INFORMS PRIZE HISTORY

The INFORMS Prize has been honored during the Edelman Gala for 18 years. While the Edelman Award and Wagner Prize recognize single projects that demonstrate outstanding accomplishments in O.R. practice, the INFORMS Prize complements them by recognizing long-term, multiproject achievements. The INFORMS Prize is awarded annually to recognize effective integration of O.R. into organizational decision-making. It is awarded to an organization that has repeatedly applied the principles of advanced analytics in beneficial and long-lasting ways.

2026 INFORMS Prize Committee

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INFORMS PRIZE PAST WINNERS

2025 Micron Technology
2024 Jingdong (JD.com)
2023 Walmart
2022 Wayfair
2021 Amazon
2020 UPS
2019 Booz Allen Hamilton
2018 BNSF Railway
2017 The Walt Disney Company & U.S. Air Force
2016 General Motors
2015 Chevron
2014 Mayo Clinic
2013 Ford Motor Company
2012 Memorial Sloan Kettering Cancer Center
2011 Sasol
2010 Jeppesen
2009 Intel Decision Technologies Group
2008 GE Global Research Risk & Value Management Laboratory
2006 Schneider National, Inc.
2005 Air Products & Chemicals, Inc.
2004 Procter & Gamble
2003 UPS
2002 Hewlett-Packard
1999 IBM
1998 Lucent Technologies
1997 Merrill Lynch Private Client Group
1996 Pfizer Inc
1995 Bellcore
1994 AT&T and U.S. West Technologies
1993 New York City Office of Management and Budget & United Airlines
1992 San Miguel Corporation
1991 American Airlines & Federal Express

Notes: Prior to 1995, the award was called the ORSA Prize. No prize recipients were chosen in 2000, 2001, and 2007.

INFORMS PRIZE CRITERIA

The INFORMS Prize selection committee is made up of seven members as well as the past committee chair, consisting of practitioners and academics, providing a broad representation of the operations research community.

Variety of Advanced Analytics and O.R. Applications.

Implementations in diverse applications, using a wide set of methods, led to greater opportunities to improve organizational performance.

Strategic Advantage for the Organization.

Analytics and O.R. permeate the parent organization's operations and are considered integral and a source of strategic advantage.

Substantial Impact.

Over the years, the total amount of beneficial impact on the organization has been substantial. This impact was delivered through some one-time and some recurring projects; its amount could be described sometimes by numerical measures and sometimes by statements without numbers.

Model for Success.

The organization provides an excellent example of successful analytics and O.R. practice for others to follow. An important reason for the success of the implementation has been its contribution to a variety of basic functions; for instance, in a business organization, these functions likely will include finance, marketing, production, and planning.

Top-Management Endorsements.

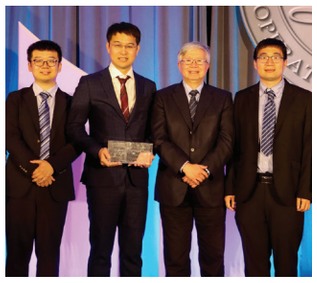
Strong submissions include personally written endorsements from top-level executives.

High-Quality Application.

The best applications are well written. And they are complete, with all supporting references and endorsements included.













2026 INFORMS PRIZE WINNER

Micron Technology: Driving the Future of Data and Computing with Innovative Memory and Storage Solutions

Micron Technology, a global leader in memory and storage solutions, is dedicated to transforming the way the world uses information to enrich life for all. Founded in 1978 in Boise, Idaho, Micron has grown to over 50,000 employees worldwide, generating $25.1 billion in revenue in fiscal year 2025. Micron's industry-leading technologies enable the world around us – from cutting-edge artificial intelligence solutions to automotive, Industrial IoT, mobile, and personal computing.

At Micron, we leverage a variety of operations research (O.R.) and analytics applications to optimize our operations and decision-making processes. Our initiatives have significantly improved planning, procurement, manufacturing, and logistics and fulfillment. For instance, the Micron Master Production Scheduler enhances production schedules for our wafer fabrication using advanced analytics. This tool has achieved a wafer fabrication throughput increase of 0.5%, equivalent to $288 million. Additionally, our Capacity Planning Optimization solution uses a combination of mathematical and simulation techniques to generate optimal capacity plans, helping Micron save more than $100 million every year.

Another example is our hierarchical linear programming solution, which optimizes supply planning by considering complex and uncertain dependencies across various levels of decision-making. This solution has increased solved demand by 3.8%, improved customer delivery performance by 1.9 percentage points, reduced working capital by $50 million, and achieved annual savings of $15 million in manufacturing costs. As a final example, our Real-Time Idle-With-Product Diagnostic solution tracks the idle time of products in fabrication facilities, identifies root causes, and provides suggestions for improvement. This solution has improved output by 0.2%, equivalent to $80 million.

Micron's commitment to O.R. and analytics extends beyond our internal operations. We actively collaborate with several global academic institutions on research, course curriculum, and student projects. Our leadership in O.R. is also recognized through numerous awards and publications.

Micron's innovative use of O.R., data science, machine learning, and analytics has not only enhanced our operational efficiency but also positioned us as a leader in the semiconductor industry. We are proud to share our journey and achievements with the INFORMS community.

micron™

INFORMS

ABOUT INFORMS

The Institute for Operations Research and the Management Sciences
Smarter Decisions for a Better World

From driving billions in efficiencies across global industries to advancing lifesaving medical treatments and strengthening critical infrastructure, operations research (O.R.), analytics, and data science are transforming the way decisions are made. These disciplines empower organizations to solve complex challenges, optimize resources, and improve lives.

At the heart of this impact is INFORMS – the leading international association for professionals in O.R., analytics, management science, and data science. With a vibrant community of more than 11,500 members across 90 countries, INFORMS connects practitioners, researchers, educators, and students who are advancing smarter decisions for a better world.

Formed in 1995 through the merger of the Operations Research Society of America (ORSA) and The Institute of Management Sciences (TIMS), INFORMS is dedicated to fostering excellence at every career stage. The organization provides a lifelong – or rather, forever – professional home where members collaborate, innovate, and lead.

INFORMS hosts premier conferences and events that bring together the global analytics community. The Annual Meeting and Analytics+ Conference are held each year; the International Conference, Healthcare Conference, and Security Conference are presented biennially in locations around the world. In addition, INFORMS offers year-round virtual programming, including the INFORMS Insights webinar series, designed to support early career professionals and emerging leaders.

Beyond events, INFORMS amplifies the voice of analytics through advocacy efforts that provide policymakers with evidence-based insights. The organization publishes 17 peer-reviewed scholarly journals – more than one-third of which are recognized on the *Financial Times* list of top academic journals – showcasing cutting-edge research and real-world applications. Professional development opportunities, including the Certified Analytics Professional (CAP®) certification program, further strengthen the field and highlight the strong technical skills of INFORMS members.

Through specialized societies and sections, industry partnerships, and a global network of experts, INFORMS members are tackling society's most pressing challenges and unlocking the power of data to improve decision-making across every sector.

INFORMS congratulates and celebrates tonight's honorees for their extraordinary achievements – and for inspiring the innovations that will shape tomorrow.

ADVANCING THE PRACTICE OF O.R. & ADVANCED ANALYTICS

By Patricia Neri, President, INFORMS Practice Section

For more than 20 years, the Franz Edelman Gala has celebrated the transformative power of operations research (O.R.) and advanced analytics. Organized by dedicated volunteers of the INFORMS Section on Practice, the gala highlights excellence through premier competitions administered by the Practice Section of INFORMS: the Franz Edelman Award, the Daniel H. Wagner Prize, and the UPS George D. Smith Prize. We invite you to explore this year's exceptional finalists within these pages.

The Practice Section champions real-world application of advanced analytical techniques in O.R., management science (MS), and artificial intelligence (AI) by administering these premier competitions that recognize measurable impact and innovation. We also support the practitioner community through practice-focused sessions at the INFORMS Annual Meeting, quarterly newsletters, monthly webinars, and networking events that connect professionals across industries and regions. Together, these efforts demonstrate how advanced analytics delivers tangible value in solving complex business and societal challenges.

Our global membership includes full- and part-time practitioners from industry, consulting, government, nonprofits, and academia, spanning sectors such as healthcare, finance, logistics, manufacturing, and technology.

Whether early in your career or an experienced leader, your perspective and expertise are welcome as we work to advance the practice of analytics worldwide. We invite you to join the INFORMS Section on Practice and contribute to this vibrant community. To learn more, visit connect.informs.org/practice.

If you are interested in volunteering or have ideas to further enrich our activities, I encourage you to reach out.













CALL FOR INFORMS AWARD SUBMISSIONS

INFORMS awards and prizes, with submission deadlines

Daniel H. Wagner Prize

Excellence in Operations Research Practice

The Daniel H. Wagner Prize emphasizes the quality and coherence of the analysis used in practice. This prize recognizes those principles by emphasizing good writing, strong analytical content, and verifiable practice successes.

2026 Submission Deadline: Thursday, June 30, 2025

Franz Edelman Award

Achievement in Advanced Analytics, Operations Research, and Management Science

The purpose of the Franz Edelman Competition is to bring forward, recognize, and reward outstanding examples of impactful O.R., management science, and advanced analytics practice in the world.

2027 Submission Deadline: Wednesday, October 1, 2025

UPS George D. Smith Prize

Strengthening Ties Between Academia & Industry

The UPS George D. Smith Prize is awarded to an academic department or program for effective and innovative preparation of students to be outstanding practitioners of operations research, management science, or analytics.

2027 Submission Deadline: Monday, November 24, 2025

INFORMS Early Career Practitioner Award

Engage & Recognize Early Career Professionals

The INFORMS Early Career Practitioner Award was created to engage and recognize early career professionals in the fields of operations research, management science, and advanced analytics for their exceptional contributions to business/industry, government, and consulting, and service to the profession.

2027 Submission Deadline: Monday, December 1, 2025

INFORMS Prize

Sustained Integration of Operations Research

The INFORMS Prize is awarded for effective integration of advanced analytics and OR/MS in an organization. The award is to be given to an organization that has repeatedly applied the principles of advanced analytics and OR/MS in pioneering, varied, novel, and lasting ways.

2027 Submission Deadline: Monday, December 15, 2025

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Robin Lougee, *Past VP Practice; KnitWell Group*

We all have this unwavering ambition to see operations research (O.R.) and analytics making an impact, to change the world for the better. This necessarily translates to always looking for new problems and challenges, new industries that can highly benefit from our expertise, and new ways to improve lives.

— USA Cycling
2025 Franz Edelman Award Winner

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