



Technology

## These are Chicago's Most Innovative Companies for 2024

By John Pletz



Credit: Michelle Kaffko/Organic Headshots

Thomas Jonas

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Chicago companies are never at a loss for innovation, whether it's health care, food, fashion, shopping or technology.

Our annual list of the Most Innovative Companies includes members of the Fortune 500, such as AbbVie and Baxter International; privately held companies, such as Elkay Manufacturing, Hollister and RTC; and venture-backed startups, such as The Fynder Group.

How do we come up with the list? It's based on an evaluation of the patents awarded to Chicago companies in 2023 performed by Ocean Tomo, an advisory, investment banking and consulting firm specializing in intellectual property.

Ocean Tomo, which is part of J.S. Held, averages the scores of the individual patents received by each company. To qualify, a company must have been awarded at least three patents.

# 1. The Fynder Group

**What it makes:** Lab-grown protein for food and fashion

**Patents last year:** 8

The miracle microbe discovered in Yellowstone National Park keeps turning up in new places, most recently on a fashion show runway in Paris.



A model showed off a Stella McCartney handbag made with a new leather substitute from The Fynder Group, a Chicago-based company best known for [a fermented protein](#) used to make its Nature's Fynd dairy-free yogurt and meatless breakfast patties.

"This is where innovation can take you," says CEO Thomas Jonas. "We found this microbe in the volcanic springs of Yellowstone. Now it's on the shelf at Whole Foods and in space and on the runway. It's like 'Where's Waldo?' It's fun."

It's also a very real business. The company's first food products launched three years ago and now are on more than 1,000 store shelves, including Whole Foods Market. It plans to launch another food product next year, Jonas says.

Roughly one-third of the Chicago-based company's 150 employees work in R&D. Since it was founded in 2012, Fynder Group has been awarded 43 U.S. patents and was inducted into the Space Foundation's technology hall of fame.

The microbe at the heart of it all was discovered as part of a NASA-funded research project to find organisms that thrive in extreme environments, providing clues in the search for life on other planets. The fermentation technology the company developed to grow its fungi-derived protein was sent to the International Space Station in a shoebox-sized bioreactor to determine whether it could be used by astronauts to grow food during long space travel.

The company spent four years developing the leather alternative made by its HydeFy unit, a nod to Fy, the name of the nutritional protein in Nature's Fynd foods. The Fynder Group is talking with other fashion designers and is exploring the automotive and furniture industries, Jonas says.

"Leather is a question mark," he says. "Fashion companies worry that leather is going to go the way of fur."

McCartney is an outspoken advocate for sustainability in fashion and has taken up the cause of [banishing leather](#).

"There's a generational change in attitudes: Gen Z is much more interested in the impact of their consumer choices on the planet," Jonas says. "Our process is very efficient. It uses a fraction of resources needed to grow a cow."

Leather substitutes are just one new potential market for the technology. Jonas sees more opportunities in food, as well as in pharmaceuticals and cosmetics.

"I'm excited about what the platform could become," he says.



Credit: Isco International

## 2. Isco International

**What it makes:** Wireless software

**Patents last year:** 20

As militaries are discovering on battlefields around the world, wireless networks are key lifelines, which makes them inviting targets.

“For \$200, someone can buy a jammer at eBay or Amazon,” says Gordon Reichard, CEO of Isco International.

That’s an opportunity for the 35-year-old Schaumburg company, whose technology helps wireless carriers eliminate interference — deliberate or not — on their networks.

“We’re seeing a lot of demand for anti-jamming products,” says Reichard, whose company has been selling such equipment for more than a decade.

One of the first users was a wireless carrier that had to deal with an overzealous pastor who bought a jammer to prevent his congregation from paying more attention to their phones than his preaching.

“It’s been a known problem,” Reichard says. “Now it’s growing in importance.”

Technological convenience can quickly become a liability. At home, in the office or on the battlefield, things that used to require a wired network, from crunching data to streaming video, are being done wirelessly. Police in Los Angeles and New Jersey have warned that some sophisticated burglars have taken to jamming Wi-Fi and cellular signals to disable security systems or phone signals in high-end homes.

The military had enemies jamming in mind when it built dedicated radio networks. “Cellular systems have never been designed with malicious jamming in mind,” says Igor Goodman, Isco’s vice president of engineering.

Isco's patents show a product line that's constantly evolving. One recent innovation involves adapting software algorithms to account for the shape and position of an antenna to help reduce interference.

Wireless technology has evolved dramatically in the past decade, and carriers are following computer companies in taking a cloud-based approach to operating networks with more open-sourced technology. That means Isco won't have to worry about building hardware deployed at individual cell sites, Reichard says.

"We'll make our patents and software licensable and embed them in (open-access network) devices," he says.



Credit: Elkay Manufacturing

### 3. Elkay Manufacturing

**What it makes:** Plumbing products

**Patents last year:** 4

Elkay Manufacturing has long been synonymous with drinking fountains and sinks.

That was before personal water bottles. The Downers Grove-based company added automatic bottle fillers in 2010 and they're now the biggest part of its business.

"Drinking fountains were overlooked," says Jason Silverstein, the company's director of design and insights. "The only people who actively thought about them were building-maintenance people.

"Things were changing. People were becoming more serious about hydration and drinking water versus other stuff. They weren't really using the drinking fountains."

Once Elkay added automatic bottle fillers, users began demanding them. The company sold 1 million EZH2O stations in little more than a decade.

"They ultimately became table stakes. . . It changed the trajectory of Elkay," Silverstein says. "If you focus equally on the end user as you do on the owner or operator, then you're going to unlock some opportunity."

Elkay recently added wireless connectivity that enables remote monitoring and maintenance, such as flushing the systems when schools aren't in session. "We're trying to save labor hours for the maintenance people," Silverstein

says.

It also sells a home version of the bottle filler.

The 104-year-old company got its start in Chicago in 1920 making stainless-steel sinks. It's still innovating there, too. Elkay recently was awarded a patent for an all-in-one sink and cabinet that incorporates a faucet with filtered-water capability built in, as well drawers with cutouts shaped to fit around the plumbing stack.

Elkay, which merged with Milwaukee-based Zurn Water Solutions two years ago, has about 20 designers, engineers and R&D experts. But hundreds are involved in coming up with new products.

"Our approach to innovation is, there's the technical invention or idea," Silverstein says. "But we don't really consider it innovation until we have figured out a way that's profitable for us to mass produce and have it accessible and affordable to big chunks of the market.

"That's sometimes the trickier part. The innovation goes beyond the R&D department. What do we have to do to our factories or with our supply-chain partners to figure out how to make this new thing?"

## 4. Raise Marketplace

**What it makes:** Mobile commerce technology

**Patents last year:** 4

Innovation is often a necessity as much as an inspiration.

In the [early days of operating](#) its online gift-card exchange, Raise Marketplace had to develop more sophisticated software to detect fraud. Now it's about to begin offering some of that technology to other companies.



Credit: Raise Marketplace

"We were super early in thinking about how you can use blockchain to stop fraud," says CEO George Bousis, who [founded the company in 2013](#). "The problems that existed then are the problems that exist today. They're just bigger because the gift-card space has exploded. Almost a trillion dollars in gift cards will be issued this year."

Raise built an online market for buying and selling gift cards with about 6 million users and 2,000 retail partners.

It also has a b-to-b offering called Raise for Business, used by companies with loyalty and gift-card programs that have a combined user base of about 80 million participants. Bousis says Citibank's Shop Your Way program uses Raise, giving members using the Citibank app the ability to convert points they earn with the bank into digital gift cards with other retailers.

Last year the company was awarded patents for fraud-detection technology, as well as technology to monitor transactions to detect purchase patterns across various retailers that can be used to better target promotions to customers' buying habits.

Bousis got his start in tech as a teenage professional gamer who raised nearly \$200 million from a high-profile list of venture-capital backers. Today the Chicago-based company has 67 employees, does nine figures in annual revenue and is profitable, he says.

The blockchain technology that ultimately resulted in patents for fraud detection and more targeted marketing is about to become a stand-alone business. Raise plans to license technology to companies to better run their gift-card programs.

"We're rebuilding the gift-card program from the ground up," Bousis says. "We think we've built an end-to-end solution for brands to have a better and more impactful digital gift-card program."

## 5. Sage Products

**What it makes:** Medical products

**Patents last year:** 11

Sage Products spends a lot of time thinking about how to help caregivers work with bedridden patients in hospitals, nursing facilities and private homes.

The 53-year-old company has come up with a sheet with specialized handles to make it easier for caregivers to safely turn over patients, such as people who've had spinal surgery, according to a patent awarded last year.



Credit: Sage Products

It's the latest in a line of Sage products for moving and turning patients. The company also has come up with products to prevent and relieve pressure sores, such as devices to protect patients' heels.

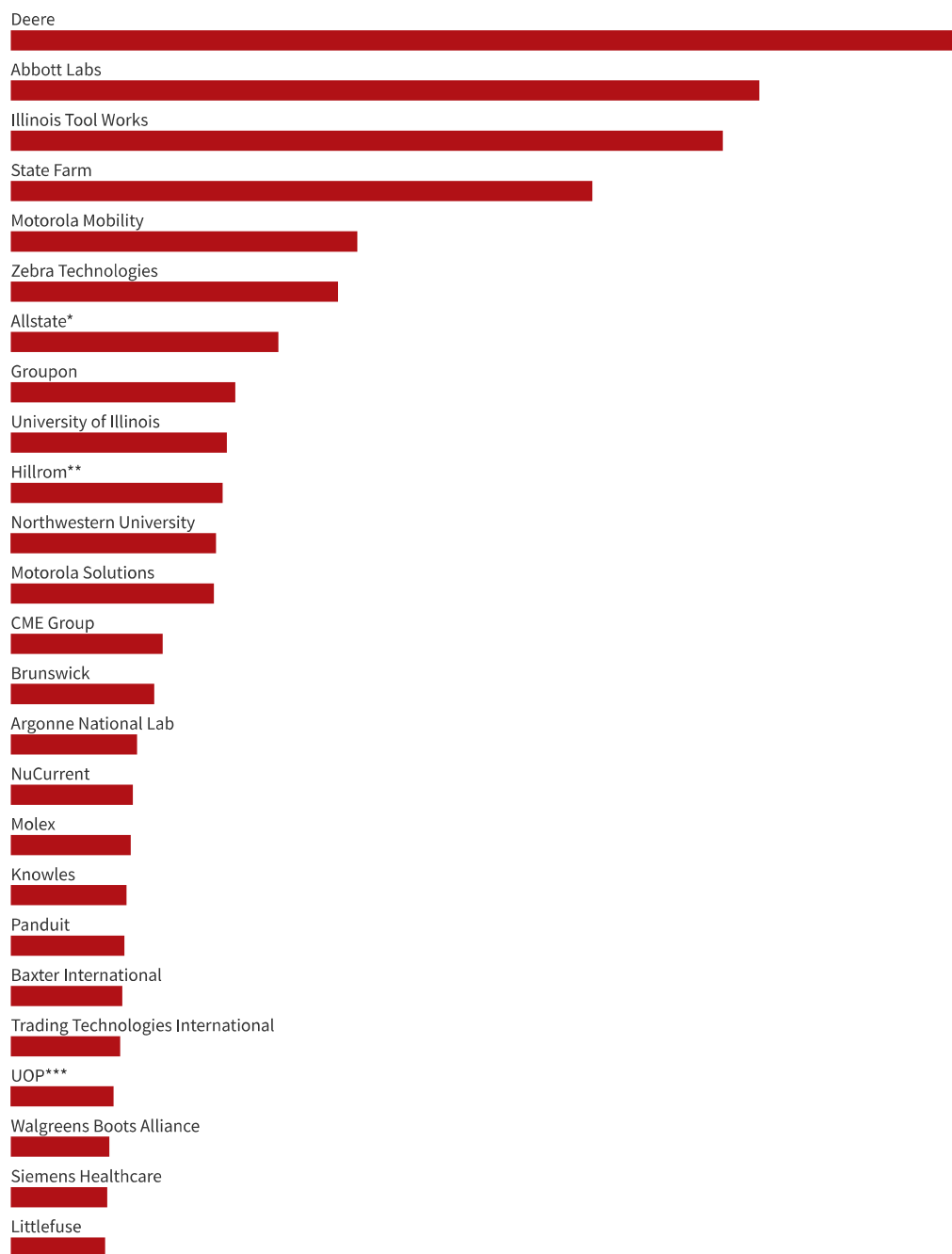
Sage, which became part of medical equipment giant Stryker in 2016, is tackling a growing market that's only going to get larger as baby boomers get older.

The number of people age 80 to 84 in the U.S. increased 17% between 2012 and 2022, roughly double the growth of the overall population, according to Census Bureau estimates. The median age for people entering nursing homes is 84, according to research by Dr. Kenneth Lam at the University of Colorado School of Medicine.

Sage, based in suburban Cary, has developed a wide variety of products to improve patient safety and hygiene, such as pre-surgery wipes and waterless bathing products. Stryker has said the business is growing in the high single digits and is one of the company's faster-growing business lines, says analyst Jeff Johnson, who follows the company for Robert W. Baird.

"They're a well-known brand," adds Morningstar analyst Debbie Wang. "If you spend some time in a hospital and watch what happens, you begin to see how there are a lot of unsolved problems like waterless grooming, where I feel like you can see opportunity. That's where Sage's products come in."

## The most prolific companies and organizations when it comes to patents



Source: Ocean Tomo • \* Includes Allstate unit Arity \*\* A unit of Baxter \*\*\* A unit of Honeywell

\* A Flourish chart

## 6. AbbVie

**What it makes:** Pharmaceuticals

**Patents last year:** 27

The patent clock is ticking on new drugs before they get to market.

Few companies know this as well as AbbVie. The patents on Humira, a groundbreaking drug that became one of the best-sellers in history, expired last year.

One of the ways to extend the life of a blockbuster is with patents related to manufacturing the drug, which has many of its own unique challenges.

AbbVie received several patents last year related to Rinvoq, one of two big successors to Humira. Like Humira, Rinvoq was developed as a biologic immunology drug for arthritis, but it's also been approved to treat eczema, colitis and Crohn's disease.

The company says in recent patent filings that it unexpectedly discovered ways to better control the release of the key compound in Rinvoq.

Pharma companies like AbbVie are an important part of Chicago's innovation economy, employing armies of highly trained scientists. It's one of a handful of U.S. cities with major pharmaceutical companies. AbbVie spun off in 2013 from Abbott Laboratories, which developed the antibiotic erythromycin, the anesthetic Pentothal and the first blood test to detect HIV.

## 7. RTC

**What it makes:** Retail shelving-management systems

**Patents last year:** 5

Richard Nathan is always thinking about store shelves: making them easier to stock, easier to shop and less inviting to would-be thieves.

More than 20 years after introducing RTC's first shelf-management system, Nathan is back in the health and beauty aisle. It's one of the most frequently rearranged areas of grocery and drug stores. It's also one of the most difficult, because manufacturers like to use bottles and packages with unique sizes and shapes as marketing tools.

Containers with wide tops or bottoms are the enemy of standardization that makes a shelf easy to refill or rearrange. RTC has made the trays in its Profit Pusher shelving displays more customizable to match varying widths of products.

"If you've got to take everything off the shelf, it's really a pain in the neck for the retailer," Nathan says.

One of RTC's early innovations was a spring-loaded display that pushes products to the front of the shelf automatically, rather than requiring employees to adjust or "re-face" them manually. It counts 15 of the nation's 20 largest retailers as customers.

With labor costs rising and workers harder to find, retailers are always on the lookout for ways to increase productivity. RTC's newest products allow an employee to change out a shelf in two to three minutes, a task that otherwise takes 15 to 20 minutes.

"Retailers are so dialed in on productivity because margins are being squeezed," says Nathan, the second-generation CEO of privately held RTC, based in Rolling Meadows. "The challenge of more expensive labor is hitting retail as much as any category."

RTC, which was founded near Pilsen in 1950 as Round Tubes & Cores to make cardboard innards for electrical transformers, has a long [history of innovation](#). Its next target is theft. One recent patent involves a shelving system that limits the ability of thieves to empty a wide swath of products with a sweep of their arms.

"Retail theft is a large, persistent industry problem," he says.

## 8. Hollister



**What it makes:** Medical products

**Patents last year:** 33

Hollister has never been afraid to try new things.

The 103-year-old company [got its start printing birth certificates and patient ID bracelets](#) and moved into medical products, becoming a leading seller of catheters and ostomy and wound-care products and an innovator in specialized, skin-friendly adhesives.

Now Hollister is moving into wireless digital health care, incorporating sensors into its products to give patients a warning if there's a leak in an ostomy pouch. The sensors provide alerts to a patient's phone and incorporate a tiny haptic device that can vibrate if the phone is out of reach.

[See where Hollister lands on Crain's exclusive list of the largest privately held companies in the Chicago area.](#)

The company has added wearables talent with expertise in micro-fluidics and wireless technologies, says Seamus Fitzpatrick, vice president of research and development. It also partnered with outside experts.

"This is one of those technologies where you have to learn how to crawl before you walk and run," he adds.

Digital tech also opens the door to new opportunities and new challenges. "It gives us information we didn't have before about the life of a (user)," he says. "We can use that information for other innovation. We also have to be concerned about the privacy of the data."

The shift into new technology spurred an uptick in patent activity by the Libertyville-based company, which is owned by its employees and has long been a believer in the power of intellectual property. Hollister nearly tripled its annual patent filings to 50 last year, says Adam Airhart, chief IP counsel.



**Fake it...**

PhotoFlipz



**... until you make it!**

PhotoFlipz

## 9. MemoryWeb

**What it makes:** Digital photo software

**Patents last year:** 4

Innovation is often about cooking up new ideas for existing businesses.

MemoryWeb co-founder Nancy Desmond was making Christmas cookies when she got the idea for a new stand-alone app. She happened across a recipe card her son had scribbled long ago as a 3-year-old.

It was a perfect use for a popular photo-flipping feature in [MemoryWeb's software](#), which allows users to digitally tag and categorize photos. The core product has long been popular with genealogists, and users had asked for a way to share the photo-flipping feature with people outside the MemoryWeb platform.

"It's always one of the features people love the most," Desmond says.

PhotoFlipz launched in August at a cost of 99 cents a month or \$9.99 a year, compared with the full MemoryWeb suite, which sells for \$9.99 a month or \$99 a year. So far it's been popular with fitness enthusiasts and trainers as a way to show off the before-and-after effects of training programs.

"When you connect the two images, it's like a big reveal," she says.

MemoryWeb is a very small company that's big on patents. It has received 17 so far, including four last year. Before launching MemoryWeb with her husband, Chris, and their friend Michael Taylor, Desmond worked for intellectual property technology firm ktMine.



Credit: Fairlife

## 10. Fairlife

**What it makes:** Dairy products

**Patents last year:** 5

Fairlife brought new life to a centuries-old product when it developed a way to filter out much of the sugar that naturally occurs in milk and boost the protein.

There's more to dairy than milk and protein shakes, and the Chicago-based company is always looking for ways to cause a stir.

It has dabbled in yogurt, briefly test-marketing a product last year before deciding not to pull the trigger on a launch. The company's research and development teams also received a patent in 2023 for a way to create yogurt that would not require refrigeration, like conventional products, but also not kill off the bacteria that are beneficial.

Fairlife launched in 2012 and now is fully owned by its onetime joint-venture partner, Coca-Cola. It has nearly 200 employees in Chicago, where its R&D team is based, along with CEO Tim Doelman, one of the founders of its ultra-filtration technology.

## The 25 Most Innovative Companies

1.	The Fynder Group
2.	Isco International
3.	Elkay Manufacturing
4.	Raise Marketplace
5.	Sage Products
6.	AbbVie
7.	RTC
8.	Hollister
9.	MemoryWeb
10.	Fairlife

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Source: Ocean Tomo

\* A Flourish table



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