Building a Groundbreaking Innovation Pipeline

Venture Partners at CU Boulder translates breakthrough research into economic and societal impact. We achieve record-breaking results by equipping researchers to commercialize lab discoveries with real-world insights. Our programs and processes move at a rapid pace to bring world-changing innovations from CU Boulder to the market.

Breaking Records in FY 2021

$2.1 B
CAPITAL RAISED BY PORTFOLIO COMPANIES

$3.7 B
EXITS BY CU BOULDER SPINOUT COMPANIES

10x
INCREASE IN ANNUAL CAPITAL RAISED AND EXIT TOTALS

When it comes to translating ideas into impact at CU Boulder, the tangible results from 2021 are eye-popping, even record-breaking. Sixty-five licenses and options. Twenty new startups. $2.1 billion in capital raised by CU Boulder spinout companies. $3.7 billion in exits by our startups. We are incredibly proud of the “measurables” and the individual success stories of our inventors and startups. And these achievements tell just part of the story.

Our ambitions also include more expansive achievements like regional workforce development, job creation, economic impact and strengthening CU Boulder and its extended ecosystem as an innovation hub for the country and the world. That may sound like a lot, but these are benefits that the nation’s top universities can generate.

Programs we established in 2021 to accelerate commercialization of university technology exemplify how our ambitions extend far beyond campus. We have partnered with the Buff Venture Fund, a new venture capital fund focused on investing in companies spinning out from CU Boulder. The Ascent Deep Tech Accelerator, a partnership with Colorado’s Office of Economic Development and International Trade (OEDIT), leverages our full ecosystem to accelerate progress for early-stage companies from the University of Colorado Boulder, Colorado Springs and Denver campuses. And, as part of a National Science Foundation initiative, we’re collaborating with seven research universities to form the I-Corps Hub West Region to help cultivate deep technology businesses in the Western United States.

Additionally, in partnership with local angel investing group Rockies Venture Club and OEDIT, we also launched the Pandemic Hyper Accelerator for Science and Technology (PHAST) to support the translation of these CU-developed, COVID-19 innovations into new businesses.

We wrapped up 2021 by earning the Innovation Award from the Association of Public Land-grant Universities (APLU), an honor that recognizes CU Boulder’s continuous endeavor to be the top university for innovation.

I hope this report will serve as a resource, outlining new ways we can work together to bring world-changing solutions from CU Boulder to the global community.

Thank you for your support and collaboration!

Terri Fiez
CU Boulder Vice Chancellor for Research and Innovation

Bryn Rees
CU Boulder Associate Vice Chancellor for Research and Innovation; Managing Director of Venture Partners at CU Boulder
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– Bryn Rees, CU Boulder Associate Vice Chancellor for Research and Innovation; Managing Director of Venture Partners at CU Boulder
Driving Results

We empower the people behind the headline-making breakthroughs. Our approach supports long-term commercial success. The proof is in our results.

FY 2021

130 INVENTIONS
65 LICENSES & OPTIONS
20 STARTUPS

FY 2020

175 INVENTIONS
59 LICENSES & OPTIONS
12 STARTUPS

FY 2019

144 INVENTIONS
46 LICENSES & OPTIONS
6 STARTUPS

FY 2018

187 INVENTIONS
52 LICENSES & OPTIONS
7 STARTUPS

FY 2017

124 INVENTIONS
49 LICENSES & OPTIONS
9 STARTUPS

FY 2012-2016 (AVERAGE)

109 INVENTIONS
33 LICENSES & OPTIONS
5 STARTUPS
## Supporting World-Changing Companies

CU Boulder technology has launched more than 155 startups. Here are just a few:

### TRANSFORMING THE WAY WE LIVE AND WORK

<table>
<thead>
<tr>
<th>FACULTY FOUNDER</th>
<th>FOCUS</th>
<th>CEO</th>
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| Dana Anderson, PhD (Physics) | Quantum computing and cold atom technology | Scott Faris | • Launched Hilbert, a cloud-based quantum computer, in 2021  
• Raised $72 million in funding |
| Sehee Lee, PhD, Conrad Stoldt, PhD (Mechanical Engineering) | Solid-state electric vehicle batteries with increased range and safety | Doug Campbell | • Secured $650 million in 2021 investments  
• Partnered with major investors including BMW and Ford |
| Linda Watkins, PhD (Psychology & Neuroscience) | New treatments for osteoarthritis, neuropathic pain, and other indications | Diem Nguyen, PhD | • Lead product in Phase II/III clinical trials, partnered with Pfizer  
• Closed $55 million Series B in 2021 |
| Ryan Gill, PhD (Renewable & Sustainable Energy Institute) | Digital genome engineering | Sri Kosaraju | • Launched Onyx™ genome engineering platform in 2021  
• Raised $500 million to date |
| Xuedong Liu, PhD (Biochemistry) | New treatments for multiple cancer types | Tony Piscopio, PhD | • Lead product entering Phase II clinical trials, partnered with Pfizer  
• Closed $55 million Series B in 2021 |
| Ted Randolph, PhD (Chemical & Biological Engineering)  
Bob Garcea, MD (Molecular, Cellular, & Developmental Biology) | Single-shot, thermostable vaccine formulations | Matthew Raider | • $7 million Series A led by Adjuvant Capital  
• Partnered with Forge Nano to combine multiple vaccine doses using atomic layer deposition |
| Linda Watkins, PhD (Psychology & Neuroscience) | New treatments for osteoarthritis, neuropathic pain, and other indications | Diem Nguyen, PhD | • Lead product in Phase II/III clinical trials  
• Closed $30 million Series C in 2021 |

### REVOLUTIONIZING HUMAN HEALTH

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Developing Real-World Readiness

Our programs go beyond the traditional technology transfer model to support researchers-turned-founders in scaling successful, sustainable businesses.

Transforming Innovators into Entrepreneurs

Research-to-Market (R2M) Customer Discovery Program

The three-week program walks technologists through the customer discovery process and pushes them to think about how their innovations can be adopted in markets in consultation with experienced mentors and advisors.

**APPROACH:**
As part of the National Science Foundation’s I-Corps™ Program, R2M leverages the nationally-recognized Lean Startup and Business Model Canvas methodologies.

**READINESS:**
Innovators and technologists are prepared to compete in the Lab Venture Challenge, collaborate with industry partners and secure grants and investments.

Lab Venture Challenge

Venture Partners brings CU Boulder’s most commercially promising technologies together for an intensive pitch competition to win up to $125,000 in grant funds. Competitors are encouraged to participate in Venture Partners’ I-Corps™ customer discovery programs and work with Entrepreneurs in Residence, mentors and Venture Partners staff.

**GRANTS TO CU BOULDER INNOVATORS IN FY21:**
$1.35 million

**WINNERS:**
12 companies in biosciences, 4 companies in physical sciences and engineering

**KEY PARTNER:**
Colorado Office of Economic Development and International Trade (OEDIT)

“R2M was a fantastic program for me and the advancement of TissueForm. The feedback that we gained through these interviews has been invaluable for product design, business strategy and pitch competitions.”

Jeanne Barthold, PhD, Co-Founder & CSO, TissueForm
Assistant Professor Carson J. Bruns, PhD (Materials, Biomedical, Micro/Nanoscale) co-founded HYPRSKN. He completed I-Corps ™ Starting Blocks and the Pandemic HyperAccelerator for Science and Technology (PHAST)

Growing a Western Innovation Powerhouse

Western I-Corps™ Hub

A $15 million National Science Foundation (NSF) award cultivates inventions and ventures in deep technology at research universities in the Western United States. The CU Boulder hub will attract campus resources, talent and global networks to expand startup support and complement existing programming.

PROGRAM LEADERSHIP:
University of Southern California in partnership with CU Boulder and the University of California-Los Angeles

AFFILIATES:
California Institute of Technology, Colorado School of Mines, University of New Mexico, University of Utah, University of California-Riverside

Destination Startup®

The third annual and largest-ever Destination Startup® event attracted 25 startups from ten different institutions across six Rocky Mountain states in 2021. Participants pitched to investors and strategic partners from around the world.

UNIVERSITIES REPRESENTED:
Colorado State University, Montana State University, University of Colorado Anschutz Medical Campus, University of Colorado Boulder, University of Colorado Colorado Springs, University of Nebraska Medical Center, University of New Mexico, University of Utah, University of Wyoming

FEDERAL LABS REPRESENTED:
National Institute of Standards and Technology (NIST)

Moving at Market Speed

PHAST Accelerator

The Pandemic Hyper-Accelerator for Science and Technology (PHAST) supports rapid translation of CU Boulder-developed pandemic inventions into new businesses. Through a partnership with Rockies Venture Club and its Hyperaccelerator program, participants in the 34-week program focus on commercialization strategy and prepare for venture capital investment.

SUPPORT FOR CU BOULDER COMPANIES:
Entrepreneurial training, funding and mentorship valued at $75,000

KEY PARTNER:
Rockies Venture Club

PROGRAM FUNDING:
$500,000 in federal funding; $125,000 local match

Ascent Deep Tech Accelerator

Deep tech startups are disruptors that face unique challenges. They often require more funding and longer lead times for commercialization. A new accelerator created for CU Boulder deep tech innovators addresses these hurdles.

Beginning in 2022, the program transfers the knowledge gained from spinning out more than 150 deep tech startups, with a focus on understanding critical milestones faced by founders.

TOPICS COVERED:
Building a team, product development, finance, equity and raising funding

SPECIALIZED CONTENT:
Biotech, quantum, energy/cleantech
Driving Venture Capital Investment in University Startups

Destination Startup®

Creating Value for Investors
Venture Partners at CU Boulder launched Destination Startup® in 2019, with the goal of attracting investors that might otherwise miss opportunities in Colorado and surrounding states. Collectively, universities across the Mountain West region boast excellent startup generation. Destination Startup® participant universities spun out 45 new companies in 2018, according to the Association of University Technology Managers. This combined number of startups is greater than MIT (25) or Stanford (24).

Destination Startup® attracts investment capital for regional startups and builds value in those companies. The program trains and develops entrepreneurial skillsets and builds the innovation talent pool across participating universities. During the application process, participants are paired with mentors from Venture Partners’ extensive network. Each company has multiple opportunities to hone its investment pitch in practice sessions with mentors, often refining not only the company’s pitch but also its underlying business model and path to market. Destination Startup® participants are offered an opportunity to join a formal Pitch Academy training session delivered by Rockies Venture Club.

Expanding Participation Through Virtual Engagement
In 2021, Destination Startup® shifted to a virtual format to accommodate the ongoing pandemic, and this new platform increased engagement across the board. In addition to the participating Colorado research institutions (University of Colorado, Colorado State University, Colorado School of Mines, and the National Institute for Standards and Technology in Boulder), Destination Startup® 2021 welcomed startups from the University of Utah, Montana State University, University of Wyoming, University of Nebraska and University of New Mexico. A total of 23 startups were selected and represented the best-of-the-best across the region. Investor engagement also increased, with 133 registered investors from all over the country and strong representation from coastal venture capital firms. In 2022, Destination Startup® will expand to include startups from the University of Arizona.

Providing Regional Leadership
By increasing the visibility of university-originating startups to coastal venture capital, Destination Startup® has grown the innovation ecosystem in Colorado and throughout the Mountain West. Venture Partners at CU Boulder takes pride in raising the profile of not only its own startups but those of our neighboring universities and federal laboratories. The multi-institutional approach to Destination Startup® is rooted in a commitment to strengthening entrepreneurial opportunities for all.

Destination Startup®
Results Since 2019

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<tbody>
<tr>
<td>STARTUPS</td>
<td>57</td>
</tr>
<tr>
<td>INVESTORS</td>
<td>143</td>
</tr>
<tr>
<td>FUNDS RAISED</td>
<td>$189 M</td>
</tr>
<tr>
<td>PARTICIPATION:</td>
<td>10 INSTITUTIONS ACROSS SIX STATES</td>
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Supporting Startup Success

Our team works closely with innovators to commercialize cutting-edge science. Together, we shape discoveries, identify opportunities and determine how to develop the final product, service or solution to appeal to target markets.

**Intellectual Property (IP) Management**
- Protecting the most compelling and transformative innovations and technologies

**Entrepreneurial Training**
- Providing innovators and startups with commercialization tools and resources

**Mentorship & Advising**
- Coaching innovators and startups on their pathways to commercialization

**Funding**
- Offering translational and proof of concept grants, and helping innovators and startups obtain capital to advance technologies and startups

**Licensing & Industry Partnerships**
- Providing business-friendly licensing, and bringing world-class research into consumer markets

Bryn Rees (Managing Director of Venture Partners), Tin Tin Su, PhD (Founder of SuviCa and Professor of MCB), Mark Rentschler, PhD (Founder of Aspero Medical and Associate Professor of Mechanical Engineering) and Doug Campbell (CEO of Solid Power) participate in a panel discussion during Destination Startup®.
Working with Us

The Venture Partners at CU Boulder team builds connections to commercialize world-changing breakthroughs. We support our up-and-coming innovators and develop relationships with industry leaders and investors from across the country.

Leadership

Brynmor Rees
Associate Vice Chancellor for Research and Innovation; Managing Director, Venture Partners at CU Boulder

IP & Licensing

Joshua Bennett
Licensing Manager, Physical Sciences & Engineering

Amy Dodenhoff
Licensing Manager, Physical Sciences & Engineering

Kate Havey
Senior Licensing Manager, Physical Sciences & Engineering—Chemistry/Chemical Engineering/Materials Sciences

Hannah Nelson
Licensing Analyst

Venture Development

Collin Bunch
Programs Coordinator

Nicole Forsberg
Business Development Executive

Scott Fox
SpecturmX Director for Commercialization

Sally Hatcher
Senior Director of Venture Development

Mark Lupa
Senior Advisor, Investment Fund

Stephen S. Miller
Director of Venture Development

Administration, Communications & IT

Nathan Chen
Senior ERA Application Administrator

Joe Davidek
Patent Manager

Kayle Lingo
Senior Marketing & Communications Specialist

Lynn Pae
License Administrator