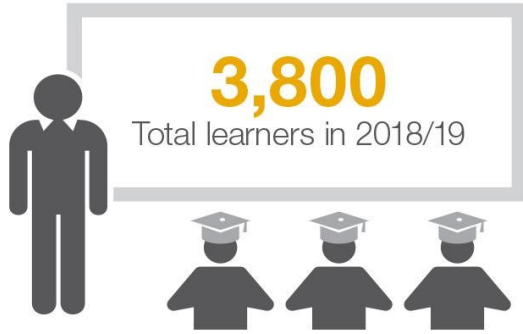




Transforming Agriculture for a Better World

Stuart Cullum | President, Olds College



53/47 ratio
of male to female



82% are from Alberta

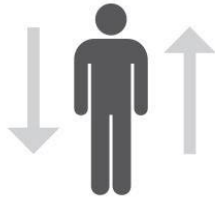
Other countries include: Australia, Bahamas, Brazil, Cameroon, China, Germany, India, Israel, Jamaica, Japan, Lithuania, Mexico, Netherlands, Paraguay, Serbia, South Korea, Uganda, Ukraine, United Kingdom and USA.

15%
Full Load Equivalent (FLE)
increase in 2018/19 from 2017/18



2,000
Acre Farm

75%
are **under** the age of **25**



25%
are **over** the age of **25**

96%

of current students would
recommend Olds College
to a friend

- Awards certificates, diplomas, applied degrees, baccalaureate degrees & apprenticeship training
- Region focus is the Province of Alberta
- Sectoral focus is Agriculture and related fields
- More than 20 years of industry focused applied research



Technology focused applied learning:

- Crops & Livestock
- Agriculture Technology
- Animal Science
- Business
- Equine
- Horticulture
- Land & Environment
- Service Industry & Food Production
- Trades & Apprenticeships



Learning Enterprises - focused on the future of industry

- 2000 acre Smart Farm
 - Crop, forage and pasture
 - 120 cow/calf herd
 - 120 ewes/lambs
 - 500 head feedlot
- 25 acres of botanic gardens and constructed wetlands
- Olds College Brewery
- National Meat Training Centre



Olds College Centre for Innovation

Primary areas of research, include:



Livestock



Turfgrass



Crops



Technology Integration












OLDS COLLEGE

100 years

1913-2013



global food production must increase by at least
50% to feed 9 billion people by 2050

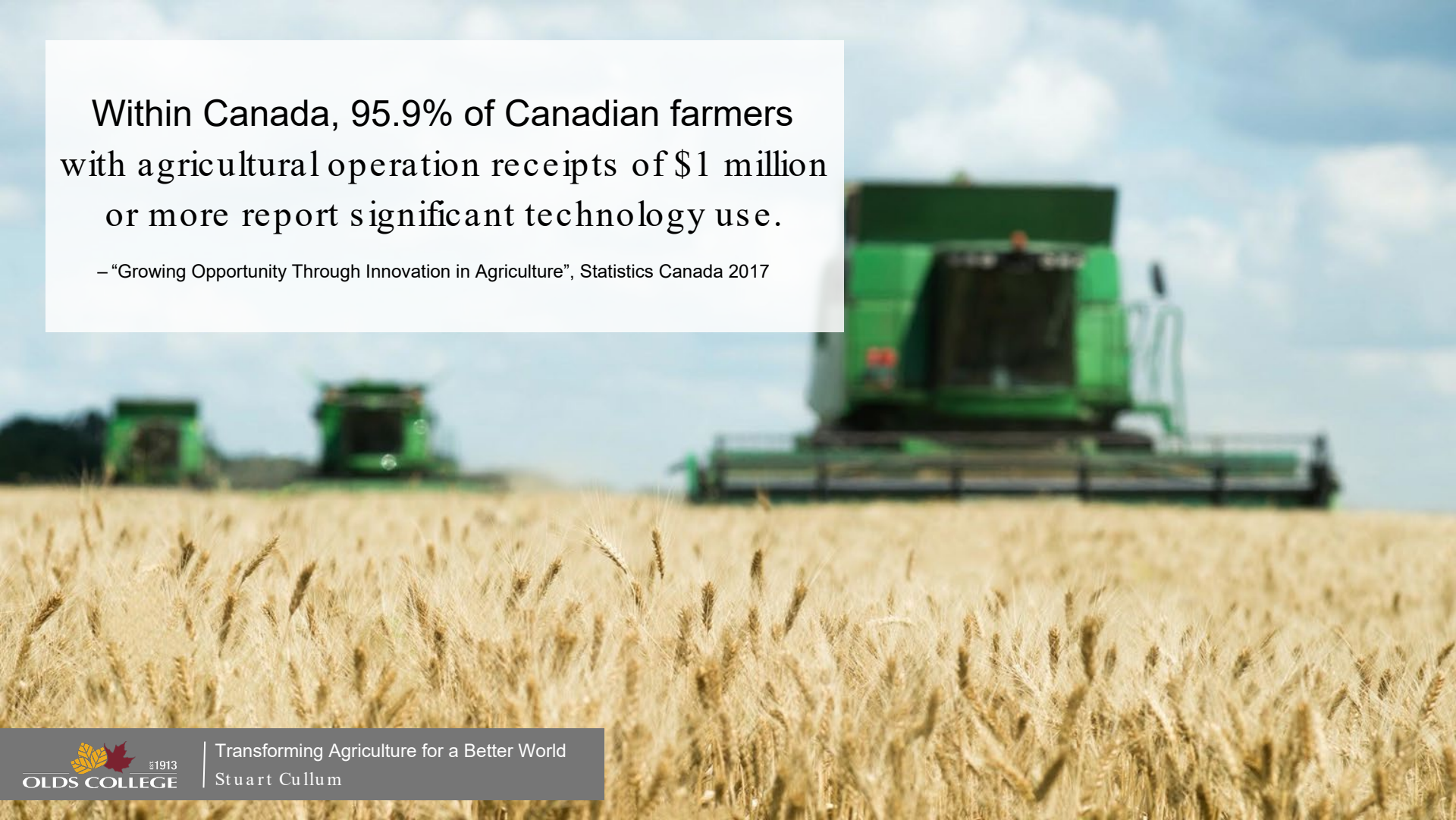
– Growing Opportunity Through Innovation in Agriculture Statistics Canada 2017

Changes in Agriculture









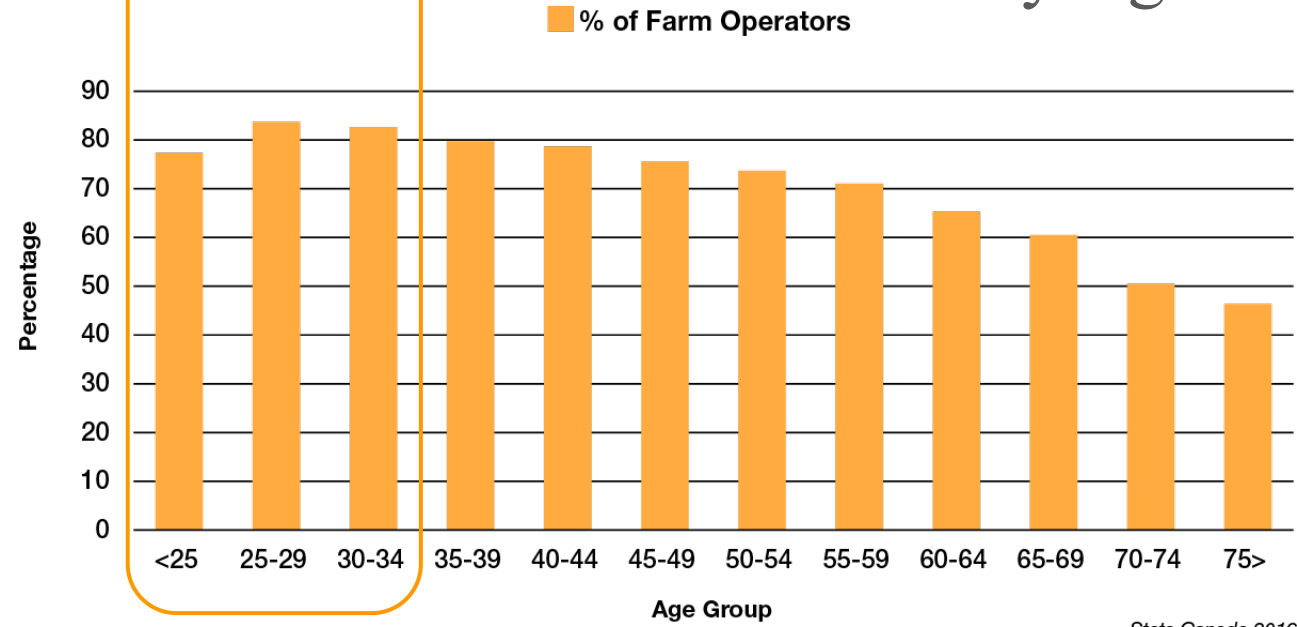
Within Canada, 95.9% of Canadian farmers with agricultural operation receipts of \$1 million or more report significant technology use.

– “Growing Opportunity Through Innovation in Agriculture”, Statistics Canada 2017



Percentage of Farm Operators Reporting Technology

Use in the Year Prior to the Census by Age Group



Stats Canada 2016

It's a lot harder than we think to apply technology to farming in a way that truly helps farmers. That's the challenge.

- Brian Tischler, Alberta Farmer

There are so many agricultural technology products that overpromise and underdeliver. They also had very little understanding of growers' unique needs.

- Ashwin Madgavkar, CEO of Ceres Imaging

Widening Skills Gap

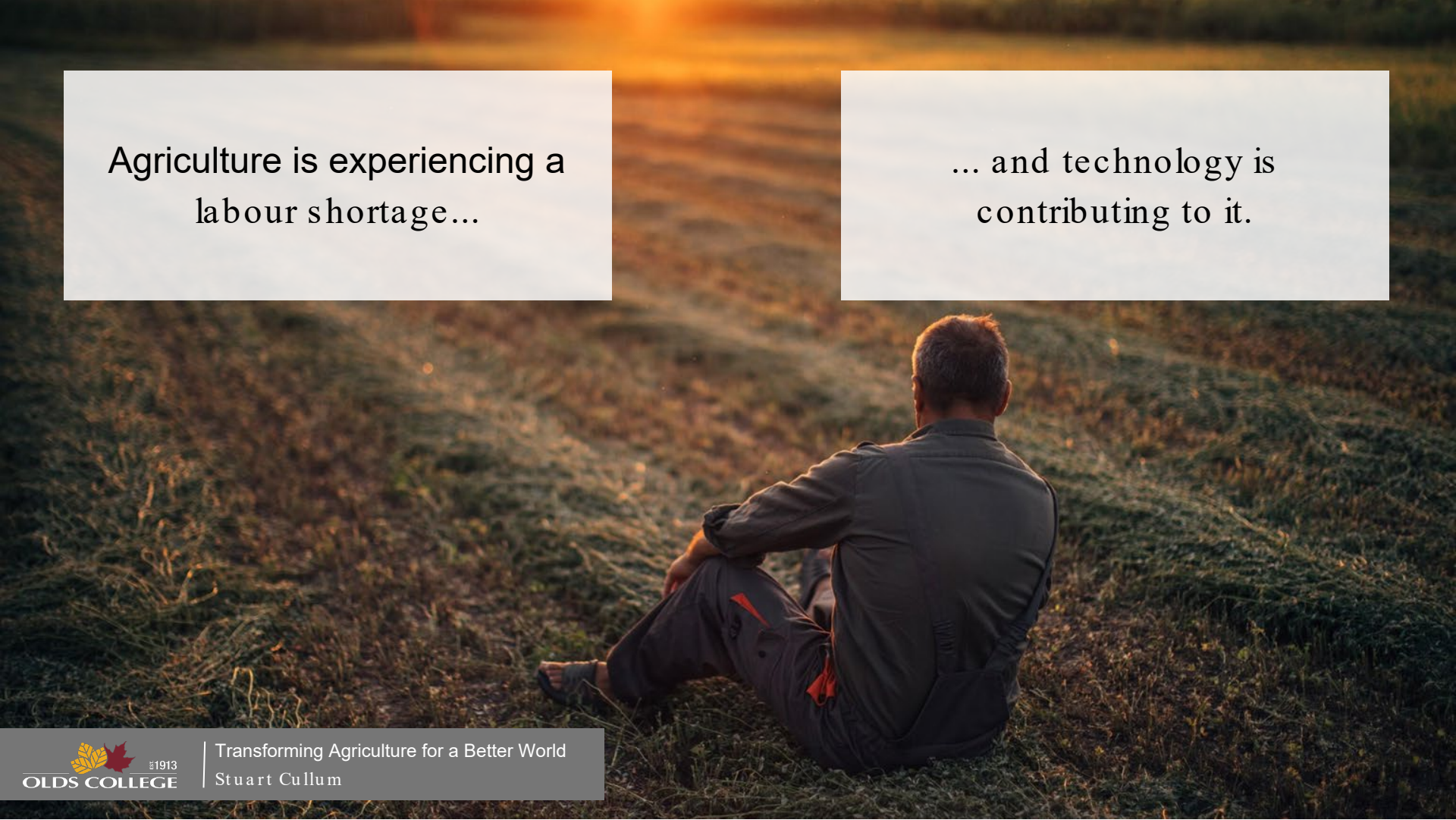


Globally, 40% of employers reported difficulties in finding skilled talent
(ManpowerGroup 2017)

Skilled labour will continue to grow in prominence as greater degrees of technological proficiency are required
(Future of Jobs 2018)

Today 50% of jobs require technical skills. In the next 10 years 77% of jobs will require technical skills.

(US Bureau of Labour Statistics)

A man in a dark jacket and pants is sitting on the ground in a field, looking out over a vast landscape towards a bright sunset. The sky is filled with warm, golden light, and the field is a mix of green and brown grass. Two white text boxes are overlaid on the image.

Agriculture is experiencing a
labour shortage...

... and technology is
contributing to it.

Labour Gap

In Canada - the ag and food sector is expecting a shortfall of 123,000 jobs by 2029.

The Canadian Agricultural HR Council 2019

Olds College Response







Community Learning Campus
OPEN COLLEGE



Growing 2025 - Our Seven Strategic Drivers



Driver #1

Be a college known for academic excellence and student success.



Driver #2

Achieve 2,000 full load equivalents (FLE's) and increase non-FLE enrolment by 50%.



Driver #3

Increase applied research activity by 100%.



Driver #4

Be a leader in smart agriculture.



Driver #5

Increase earned revenue/investment by 60%.



Driver #6

Be recognized as an employer of choice.



Driver #7

Be a smart campus.

Growing 2025

Olds College Strategic Plan





SMART Farm

oldscollege.ca/smartfarm



Olds College Smart Farm

- Launched in June 2018
- 27 Partners
- Over 2000 acres and growing
- Development, Validation, Demonstration



Smart Farm Projects

Autonomous Farm Equipment

April 2020

Problem

Agricultural producers, manufacturers, and policy makers are looking for independent, third party information on the environmental, social, and economic value of autonomous agricultural production.

Solution

Olds College Smart Farm will be operating DOT equipment, collecting independent information regarding the benefits and challenges of autonomous agriculture production and to measure its economic and environmental “footprint”.



Smart Farm Projects

Purpose - Built Network

April 2019

Problem

Farmers need to gather significant volumes and types of data, engage with multiple service providers and try to still make quick, smart decisions.

Solution

Through the provision of a low power wide area LoRaWAN network, a dashboard or interface is made available to allow farmers to see all of their data in one place - allowing for easier and faster decision making



Smart Farm Projects

Field to Glass

Spring 2019

Problem

Consumers expect to understand where and how their food (and drink) is produced all the way back to the soil.

Solution (Ready for Father's Day!)

Olds College Brewery, along with its partners (Grain Discovery and Decisive Farming) produced a fully transparent and traceable beer using malt barley grown on the Olds College Smart Farm.

Final product has a QR code that displays a story line when scanned.



Smart Farm Projects

Multi Sensor Cluster

April 2019

Problem

Soil sensors in development or on the market are unproven in their efficacy and value proposition.

Solution

Multiple soil sensors are being evaluated under identical conditions (western Canadian dryland prairie environment) for accuracy and value.



2019

- 60 projects
- 51 companies





Largest personal donation in Alberta colleges' history to create Smart Agriculture hub

March 27, 2017, Olds, AB | Canadian entrepreneur, official leader and dedicated philanthropist P. Werklund and his partner, Norman, have gifted Olds College \$16M, the largest ever personal donation to an Alberta college or technical university.

The tiered donation will have a cumulative impact of \$32M which will leverage opportunities that can be created. Werklund's donation begins with cash, supplemented by a major component where Werklund's element is a \$10M estate gift donation is designed to incent industry and governments.

This transformational gift will be used to create a Smart Agriculture hub and will specialize in Smart Agriculture, an integrated agricultural learning and research center, leadership and education to create a Smart Agriculture and food power hub.

ATB Financial Supports Olds College with \$250,000 Donation

Olds College is thrilled ATB Financial's support of technology research and development at the College's high-tech smart farm taking place August 13 and 14.

"The Olds College Smart Farm provides an environment where producers, industry partners, College researchers, faculty and students can explore the challenges and opportunities facing the ag sector and together investigate solutions and determine how we can use technology, data and expertise to evolve our existing agricultural practices," comments Stuart Cullum, President, Olds College. ATB Financial is investing in the Smart Farm.

UFA Supports Innovation in Agriculture at Olds College with \$500,000

Financial Commitment supports Smart Farm



(From left to right) Kevin Hoyle, UFA; Carol Kitchen, CEO, UFA; Board Chair, Olds College; Dr. Stuart Cullum, President, Olds College.

FCC Supports Olds College with \$200,000 donation

Financial Commitment supports Smart Farm

(Calgary, Alberta — April 2019) — Farm Credit Canada ("FCC") announced today a \$200,000 commitment to Olds College and its focus on cultivating informed decisions through the advancement of technology learning and applied research at the Olds College Smart Farm.

The four-year financial commitment enables Olds College to create the AgExpert Innovation Centre.

The lab is a technologically advanced facility that will

Strategic Innovation Fund Invests \$49.5 Million in Ag Technology

Canada's agri-food sector is poised to take a leap forward in the areas of automation and digitization thanks to a transformational investment from the Government of Canada's Strategic Innovation Fund.

On July 22, 2019, the Honourable Amarjeet Sohi, Minister of Natural Resources, on behalf of the Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development, and the Intelligence Network (CAAIN), announced a \$49.5 million investment to support the development of agricultural technology and innovation companies and expand the sector.



Local Couple Create Legacy Gift for Olds College

December 11, 2019 | Olds, Alberta

Olds College Smart Farm set to expand thanks to a gift of land from George and Marge Steckler of Didsbury Alberta. The local couple has committed a future estate gift that includes 320 acres of farmland that will be integrated into the [Olds College Smart Farm](#). The gift also includes an endowment fund for student bursaries that will be awarded to eligible students enrolled in agriculture programs at the College.

Olds College Donation

June 12, 2019 | Olds, Alberta
A gift of agricultural land located on the east side of Willem Pitstra. Valued at \$1.5 million, the land will be used for Smart Farm, a high-tech farm for validating and demonstrating agricultural technologies and innovations.

"The Smart Farm creates a learning environment for students by providing a hands-on experience in agricultural technology and innovation."

"On behalf of Olds College, I would like to sincerely thank George and Marge Steckler for this amazing gift," comments Stuart Cullum, President, Olds College. "By addressing the financial needs of



Convening the Agriculture Industry

65 events



11,072 people

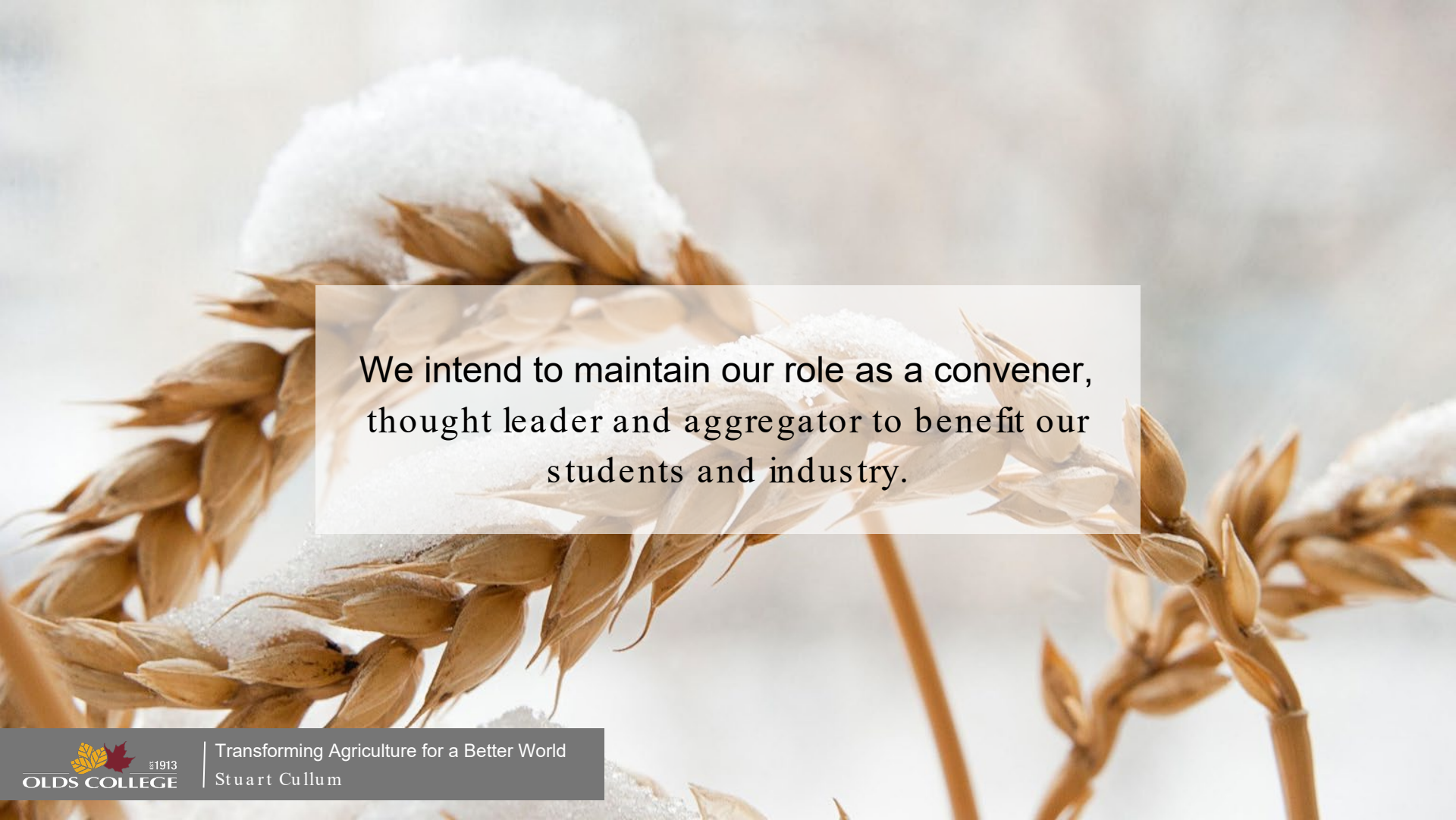
AgSmart

A hands-on demonstration and education expo focused on technology and data across the agriculture sector

Last year's show featured:

- 75 exhibitors
- 45 education workshops
- 51 in-field demonstrations
- Over 2,000 people in attendance.



A close-up photograph of several wheat stalks covered in a layer of white snow. The wheat is golden-brown, and the snow is piled on top of the heads. The background is a soft, out-of-focus white and light grey.

We intend to maintain our role as a convener,
thought leader and aggregator to benefit our
students and industry.



**WERKLUND SCHOOL
OF
AGRICULTURE
TECHNOLOGY**

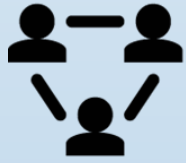
Agriculture Technology Programming

First programming out of the gate:

- Post-Diploma Certificate in Agriculture Technology Integration
- Diploma in Precision Agriculture Techgromomy
- Bachelor of Digital Agriculture



Top 5 Highlights/Skills



Soft skills

collaboration/
teamwork,
communication,
customer service,
business
principles, sales



Systems Thinking

design thinking,
critical thinking,
exponential
thinking,
process, project
management,
problem solving



Technology integration

low tech and high tech



Data Management

storage, analysis,
collection, security

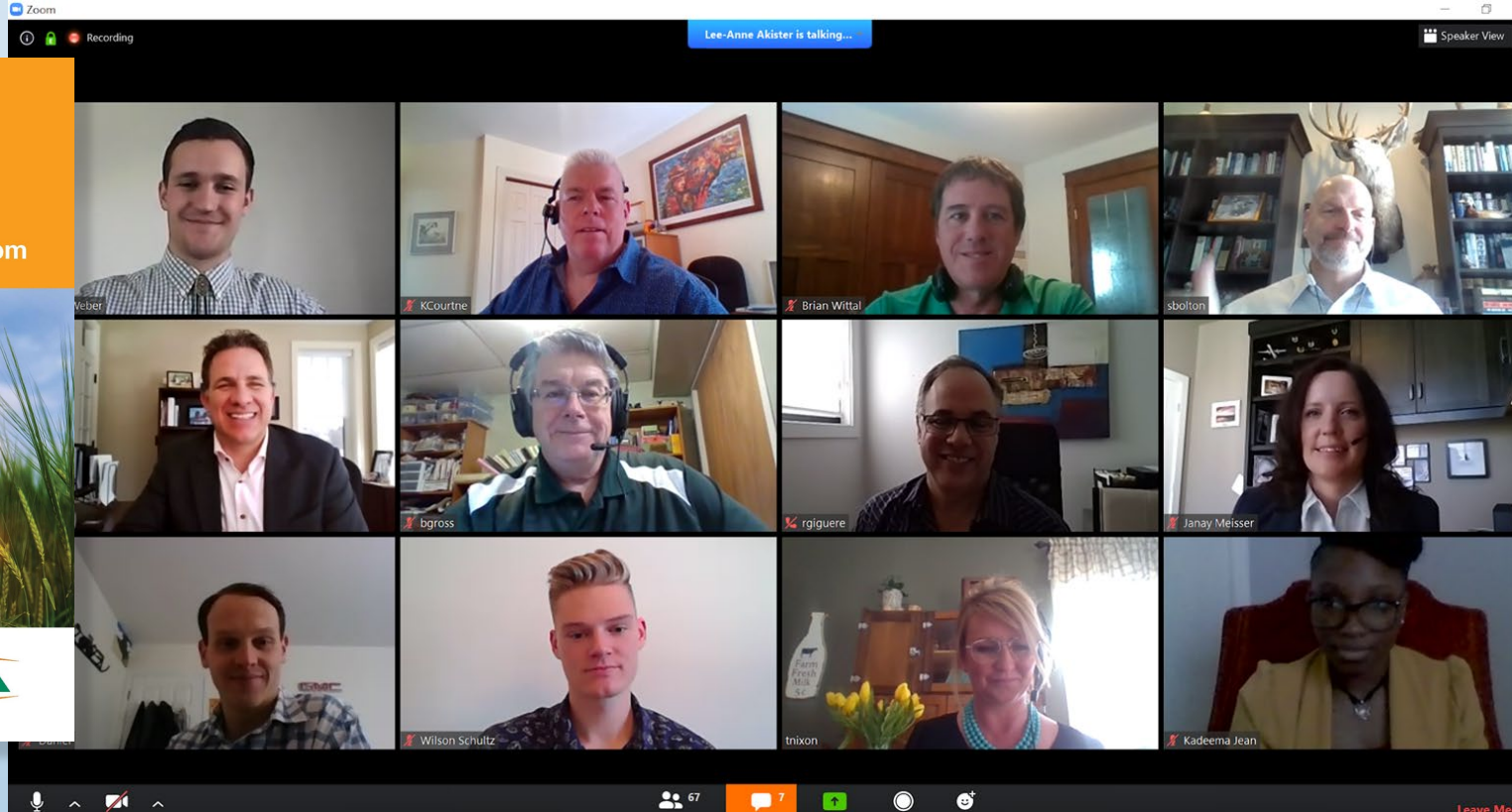


Basic natural sciences

soil, biology, plant,
animal

Multiple Lens Perspective





UFA PITCH DAY

April 16, 2020 1:00-3:30 pm



Transforming Agriculture for a Better World
Stuart Cullum

Reflecting on a Legacy of Skills Training

- Suitability
- Productivity
- Profitability



Reflecting on a Legacy of Skills Training

- Pacing with change
- Adopting new technology and practices
- Integrating to solve real problems







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