

CONVERGE

Inside Innovation

Throwing the spotlight on ideas that
could one day change the world.

Streaming 24 June 2021 from 1:45 pm

[Programme](#)

Contents

<u>Welcome from the Director</u>	3
<u>Welcome from the Chairman</u>	4
<u>Event Programme</u>	4
<u>About Inside Innovation</u>	5
<u>Who's who in the studio</u>	6
<u>Creative Challenge</u>	7-10
<u>Impact Challenge</u>	11-13
<u>Converge Challenge</u>	14-19
<u>What's next for our semi-finalists?</u>	20
<u>Our funders and partners</u>	21-22

Welcome to Inside Innovation

If there's one thing that Covid-19 has taught us, it is that research and innovation have never been more important. The power to think differently and to innovate – talents which universities have in abundance – has saved countless lives while helping the world get back on its feet.

In Scotland we are fortunate to have some of the best universities in the world. Home to nearly a quarter of a million students and 40,000 staff, this represents a huge amount of talent with the potential to drive a stronger, fairer, greener economy as we emerge from lockdown.

By working closely with our university partners, and with the backing of our many funders including the Scottish Funding Council and Creative Scotland, Converge helps to uncover this amazing talent; supporting, inspiring and celebrating a new generation of academic entrepreneurs who could one day change our world – for the better.

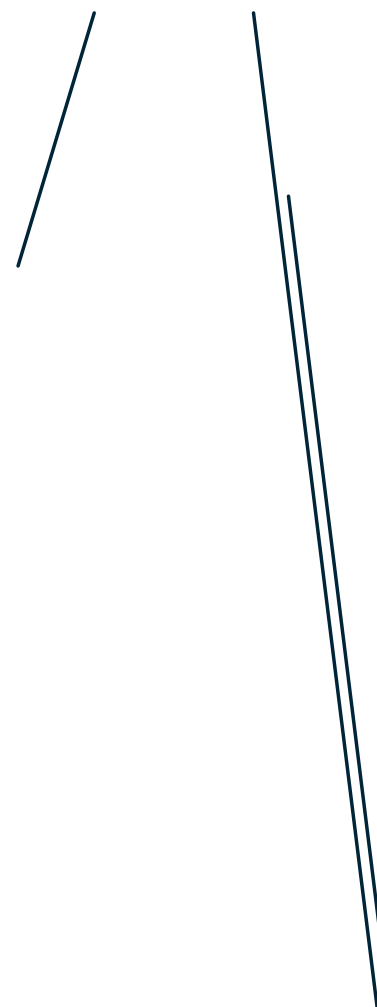
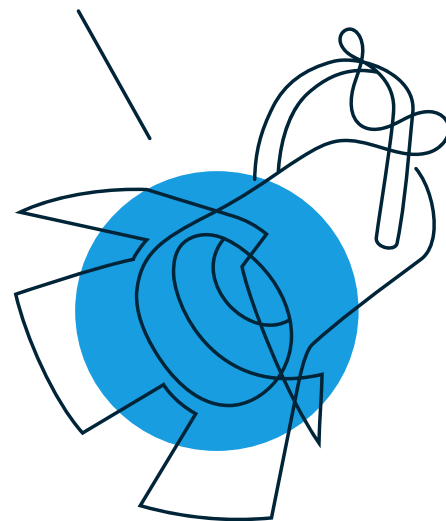
Which brings us neatly onto our Inside Innovation showcase. Representing universities and research institutes up and down the land, this is your chance to see the very best innovations emerging from our academic sector, up close and personal. Created during a pandemic, in the most trying of circumstances, they are testament to the inventiveness and resilience of our 2021 semi-finalists.

The event also marks the culmination of our Converge Training programme, providing an opportunity for our semi-finalists to put into practice everything they have learned over a full week of intensive business and pitch coaching.

Best of luck to all our semi-finalists and many thanks to everyone joining us for what promises to be an exhilarating afternoon of pitching!



Claudia Cavalluzzo
Director, Converge



Unearthing amazing talent

As the Chair of Converge, I get great inspiration from watching the Converge team unearth amazing talent from our next generation of academic entrepreneurs. Also, as a Partner in one of Scotland's leading Venture Capital firms, I know how important it is to develop and support the entrepreneurial ecosystem and encourage business founders to turn great ideas into companies with scale-up potential.



Paul Atkinson
Chair, Converge

I would like to thank the entire Converge team, working tirelessly to deliver brilliant commercialisation support alongside its partner Universities. I would also like to thank all of our many funding partners, who provide the essential finance to support the work of Converge. My thanks also to my fellow Board members at Converge, who provide support and guidance to Claudia and her team to deliver against Converge's ambitious plans.

Thanks to you all for joining this year's Inside Innovation event and best of luck to all of our semi-finalists as you apply your Converge Training. I hope your day of pitching goes well and look forward to seeing you successfully pitch for funding at some point in the future.

Event Programme

1.45pm	Join the event for real-time networking around virtual tables
2.00pm	Introduction by host Laura Goodwin Welcome by Polly Purvis, deputy chair, Converge Creative Challenge pitches Impact Challenge pitches Laura Goodwin interviews Seonaidh MacDonald
3.15pm	Short break for more networking
3.25pm	Welcome back Converge Challenge pitches Announcement of winners Closing remarks
4.15pm	Networking
5.00pm	Event closes

About Inside Innovation

Many of you watching today will be familiar with Converge, and our work as Scotland's largest company creation programme for the university sector. Whether you're an old friend of the Converge family or attending your very first Converge event, you are in for a treat.

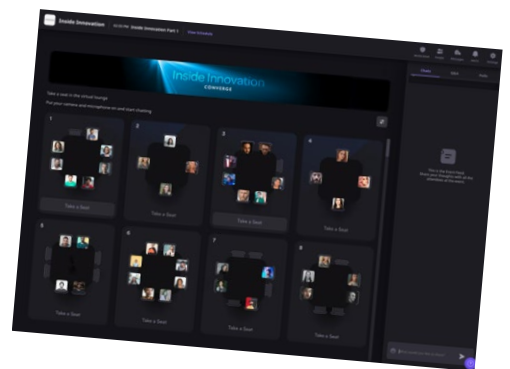
Each year our programme invites academic entrepreneurs to put forward their ideas for innovative businesses. Staff, students and recent graduates of all Scottish universities working across all sectors can apply, from early stage ideas right up to projects which are well developed and almost ready for spin-out. Above all, we look for innovation.

Successful participants – also known as semi-finalists – undergo intensive business training on all aspects of launching and running a successful enterprise. They then produce a business plan and, towards the end of the programme, compete for equity-free cash prizes to help them on their way.

Today, it is our chance to unveil the 59 projects that have been selected as semi-finalists in our three advanced categories – the Impact, Creative and Converge Challenges.

It will be fast-paced, with each semi-finalist given just 60 seconds to convey the essence of their business idea, for many, the culmination of years of research and development.

So sit back, relax and enjoy the show!



About our event platform, Airmeet

Join us before and after the show for real-time video networking with other members of the audience on our Airmeet event platform.

- **Airmeet** is best accessed on a desktop or laptop computer, using Google Chrome as the preferred browser. (Other browsers are compatible – check your joining instructions or the Airmeet help button for more details).
- Once in Airmeet, take a seat in our virtual lounge and once there is more than one of you at a table, pop your camera and microphone on to get chatting with your fellow audience members. You can move tables at any time. Click on the "People" icon at the top of the screen to see who else is here, and send a direct message to anyone by clicking on their icon.
- Send a message to the whole audience in the chat, and once the show has started, you can show your appreciation for the pitchers by clicking on the emoji icons, or post a question for our keynote speaker.

Who's who in the studio



Laura Goodwin

BBC Scotland Technology and Innovation Correspondent and Event Host

Laura Goodwin has been a broadcast journalist for 15 years. She started her broadcasting career at Moray Firth radio in Inverness before moving to STV North in Aberdeen as a presenter and reporter covering the opening of the Queensferry Crossing, the new V & A museum and the Scottish independence referendum. She joined the BBC as Innovation Correspondent in 2018, a new role created at BBC Scotland. Laura regularly presents live news programmes including The Nine, Reporting Scotland and recently anchored part of the political coverage ahead of the BBC Scotland leaders debate.



Seonaidh MacDonald

CEO and Chairman, EOLAS (Advisory) Ltd and Keynote Speaker

Seonaidh was CEO of mLED Ltd, a leader in micro-displays for AR/VR and led mLED in 2016 to a hugely successful exit to Facebook. Prior to this, Seonaidh was Chairman of Hebridean Power Ltd, (renewable energy), he was Deputy Managing Director & Business Services Director at Babcock Marine Clyde Ltd. Between 1997-2005, he held leadership roles at IBM Corp. With over 25 years of international management experience, Seonaidh boasts an outstanding record of delivery as a street smart, goal-driven board member. His focus nowadays, through EOLAS (Advisory) Ltd, is on helping others with key challenges around strategic clarity/impact, funding sources, focused management, business growth, M&A exit readiness and C-Suite mentoring/restructuring.



Polly Purvis, OBE

Deputy Chair, Converge

A respected Chair and NXD, Polly is Deputy Chair of Converge and recently stepped down as the founding Chair of CodeClan. She is also a board member of Edinburgh Science, and sits on the technology advisory board for JCCA. Polly previously held roles as Director, ScotFIN, at IGS, the Scottish agri-tech business building leading edge vertical farming solutions, and prior to that was CEO of ScotlandIS, the trade body for the digital industries, where she founded CodeClan, Scotland's digital skills academy. She has an honorary doctorate from the University of Abertay. During her career she has worked in the financial services, economic development, and digital technologies industries, and has an honours degree in Agriculture and Food Marketing.



Alice Smith

CEO, SpeakUnique

Alice Smith is CEO of SpeakUnique, a personalised synthetic voice company. SpeakUnique launched as a University of Edinburgh spin-out company to offer personalised synthetic voices for people who will lose, or who have lost, their voice as the result of a medical condition, such as motor neurone disease, cancer or cerebral palsy. Prior to launching SpeakUnique, Alice worked at the University of Edinburgh as a research assistant. In 2019, Alice was awarded a Royal Society of Edinburgh Enterprise Fellowship and was a Converge Challenge finalist.



Dr Murray Collins

CEO and Co-founder, Space Intelligence

Murray has spent the past 15 years working on environmental technology projects: from camera-trapping in the jungles of Sumatra, measuring over 4,000 trees in Gabon, to using satellites to track deforestation. He co-founded Space Intelligence in 2018 to provide trusted information to enable the development of Nature Based Solutions (NBS) to climate change. This includes provision of land cover mapping, forest carbon estimation; plus NBS investment opportunity screening and assurance services. The Space Intelligence team provides this information by analysing huge amounts of data from satellite using Machine Learning and Artificial Intelligence. Their clients include governments, NGOs and large multinationals. In addition to leading the team at Space Intelligence. Space Intelligence was a Converge semi-finalist in 2018.

Creative Challenge

The Creative Challenge, is for aspiring entrepreneurs in Scotland's creative industries with original ideas that have the potential to flourish into sustainable businesses.

The 2021 Creative Challenge semi-finalists are...

3030 Games

Chris Pohler

Abertay University

King of the Drills (KotD) is a tactical virtual reality game featuring clans of hyper-intelligent moles battling for domination. Each clan is ruled by a Commander Mole, a respected leader who commands their troops from above the battlefield in their command craft. During the game, the player controls the Commander and a squad of four moles. They alternate between the tactical command view, plotting their strategies and viewing statistics, before switching to one of the squad moles. Here they can move, build cover and use their equipment by spending the action points they have on their turn.



[@3030games](#)

Cancha

Jack Oswald

University of Stirling

Cancha designs and sells customisable sport and travel bags that can be adapted to suit a range of sports and activities. Cancha bags feature a unique modular design that allows them to attach and detach from a range of purpose-built accessories in seconds, giving the user ultimate choice over what they carry. Cancha bags are also made from abrasion-resistant, high-tenacity nylon, and incorporate the latest advancements in textile manufacturing processes, such as laser-cut fabrics, heat-bonded zips and RF welded construction. This gives Cancha bags an exciting, modern style and ensures they are built to last.



[@canchabags](#)

Aberdeen Ceramic Workshop

Aimee Morris

Robert Gordon University

As a collective, our ambition is to create an open access ceramics studio in Aberdeen city centre, providing space, equipment, teaching and support for beginners through to emerging makers and established artists. We also aim to reach out to schools where ceramics is not within the art curriculum.



[@aberdeenceramicsstudio](#)

Dirty Politics

Sean McKenna

Queen Margaret University

"Dirty Politics" is an improvisational party game in which players engage in silly debates and challenges to win the White House. Candidates perform arguments based on a TOPIC or ACCUSATION, or try to score with the luck of a CHANCE CARD, all while employing one of two rulebooks: The PARTISAN, who relies on their powers of persuasion, and the POPULIST, who must be as entertaining as possible. Each round ends with VOTERS deciding whether the PARTISAN was more persuasive than the POPULIST was entertaining or vice versa, giving the winner a TRUMP CARD to alter future debates to their advantage.



[@DPPartyGame](#)

Creative Challenge semi-finalists

EchoVector

Connor Moore

University of Edinburgh

EchoVector is bringing word-of-mouth marketing into the digital era. The peer-to-peer marketing service is delivered through a mobile application where businesses can offer their goods or service for free to a promoter, in return for the promoter to create an endorsement and post on their personal social media. Promoters can have as few as 500 followers on their social media but, because their following is mainly comprised of friends, they reach a highly engaged audience in an authentic way. Hailing from Edinburgh, Imperial and Durham universities, the team behind EchoVector has developed an MVP and attracted thirty beta customers.



[@echovector](#)

GamerMate

Cat Burroughs

University of Aberdeen

GamerMate is a web-based dating application designed by and for the gaming community. Instead of awkward personality quizzes and bios, users play a retro computer game where their choices create a model of their traits. Finishing the game awards the user a retro icon representing their 'alignment' which is then passed through our proprietary algorithm to match with users of the same alignment or opposite alignment. GamerMate is invested in the diverse and ever-growing gaming community with a focus on creating deep emotional connections, whether platonic or romantic.



Knit It

Lucy Fisher

Robert Gordon University

Knit It has developed a new innovative digital platform which enables knitters to have a choice in how they follow a pattern, making knitting simpler, easier and fun. Knit It 'digital patterns' have smart interactive tools that teach less confident knitters new skills and allow the more experienced to push the boundaries of their craft! Our aim is to reinvent knitting to make it more accessible to the digital savvy generation and ensure the longevity of the traditional hand craft. Our ancillary product the 'KnitPic Kit' transforms a customer's photo into a knitting pattern giving them all the goodies to Knit It!



[@hello_knit_it](#)

Leather Identity

Lucy Dickie

Glasgow School of Art

This project looks at repurposing offcuts from the leather industry, transforming them into unique and personalised handbags. Each garment is made to order, thus further limiting textile waste. The design is inspired by the intended wearer which makes each bag entirely individual. The interchangeable trims alter the design and functionality of the bags to make them perfect for any occasion, trend and style.

This project intends to satisfy everyone's desires through personalisation and adaptable design. The theme is in tune with the current movement towards self-expression and self-acceptance, whilst also pressing for solutions to the environmentally detrimental fashion industry.



Creative Challenge semi-finalists

Make Your Own Musicals

Jonathan O'Neill

Royal Conservatoire of Scotland

"Make Your Own Musicals" creates musical theatre activity packs for children at home or school to write their very own musicals. Each pack contains child-friendly writing prompts, original backing tracks and interactive sound effects, with multiple storylines available. The packs also provide fun cut-outs and educational resources to develop children's creative skills. The product currently exists in a downloadable activity pack form. However, we are in the process of developing a Make Your Own Musicals App which will improve the accessibility of the pack, add interactive games and masterclasses, and allow a subscription model with new musicals being released each month.

 @myomusicals



Music and Maternal Mental Health Hub

Yvonne Wyroslawska

Royal Conservatoire of Scotland

One in five new mothers in the UK live with a mental health condition, with postnatal depression affecting 10-15% of mums within the first year of their baby's life. Meanwhile, music participation benefits mental wellbeing: specifically, participating in a singing group with your baby has been shown to more quickly reduce symptoms of postnatal depression than participation in other social or creative baby groups.

 @ywyro



Neosome

Jo-Anne Tait

Robert Gordon University

We are developing an online seat viewer that can be applied to any venue, enabling people to select the seats from within a venue. Users will be able to see what the view to the stage will be like from their selected seat, as well as being able to satisfy their own accessibility requirements. There will also be an option to switch onto "full-house" mode to experience what it will feel like when the auditorium is full.

 @iamneosome



Queerativity

Heather Richardson

Queen Margaret University

Queerativity is the UK's first website that showcases LGBTQ+ Art by LGBTQ+ Artists, and is comprised of three main areas: LGBTQ+ Art: Queerativity posts new Queer Art every second week - amplifying marginalised voices and growing a network of Queer Creators; LGBTQ+ Events: The aforementioned creators' network allows Queerativity to organise a variety of events, making it the only LGBTQ+ Events Company in the UK that does not exist solely during/for Pride months; LGBTQ+ Agony Aunt: "Queeries" is an opportunity for people to submit anonymous questions surrounding LGBTQ+ lifestyles and identities.

 @Queerativityart



Creative Challenge semi-finalists

Savora Drinks

Danielle White

University of Dundee

Gin and tonic, rum and coke, both of these spirits have an instantly recognisable mixer. But if I were to say Tequila, what would you think of? Here at Savora Drinks we create premium mixers expertly crafted for pairing with Tequila. The first mixer in our range is “Zesty Lime & Sweet Agave” which provides an unrivalled flavour profile perfectly balanced for pairing with this beautiful spirit.

 @savora.drinks



The Grey Hill

Barry Robertson

Robert Gordon University

The Grey Hill is a multimedia tech-based theatre company. We are a digital-first company that provides audiences with accessible theatre content. Since our launch, we have 14 theatre production titles for digital distribution in multiple formats. We produce and distribute our content internationally via online stores and support local theatre venues with our services to go digital with our storefronts and production capacity.

 @thgreyhill



Turnbull Design Engineering Ltd

Lee Turnbull

University of Strathclyde

Turnbull Design Engineering Ltd (TDE) has developed a patent-pending fitness device, an everyday fitness aid that allows the user to perform hundreds of functional exercises. The innovation comes in the form of a specialised mechanism that maximises the number of exercises a user can perform, making it outperform everything else in its equipment category. TDE has industry connections in the fitness sector and plans to develop and sell a complete fitness routine and set of group classes based on the system – a strategy that will put us ahead of the competition.

 @DesignTurnbull



Impact Challenge

The Impact Challenge, sponsored by Social Investment Scotland, is for sustainable business ideas with the potential for significant and long term social or environmental impact.



The 2021 Impact Challenge semi-finalists are...

B Journeys

Melanie van de Velde
University of Glasgow



B Journeys is a data and consultancy service making travel a force for good. Our vision is to empower 10 million people out of poverty. We do this by providing travel providers with the data they need to include unique, authentic destinations that are typically left aside by tourism, but where travel can have huge impact on communities. By improving livelihoods sustainably, we tackle not only the first UN Sustainable Development Goal 'Zero Poverty'; but we create positive knock-on effects on hunger, access to water, medical supplies, schooling, better farming tools and a reduction of migration to city slums.

🐦 @Journeys_B

bennu.ai

Jonathan Feldstein
University of Edinburgh



Without urgent action, global waste generation will rise by 70% to over 3 billion tonnes by 2050. At the same time, waste management costs are predicted to explode. Over the last decade the waste management bills of UK companies have increased by 270%. The problem with sustainability is that it always entails an investment from companies. However, we believe that sustainability should not come at a cost. Therefore, we are developing the world's smartest bin, which sorts waste automatically, increasing recycling rates by over 40%, decreasing the carbon footprint and reducing waste management bills by over 30%.

🐦 @bennuAI

BioLiberty

Ross O'Hanlon
University of Edinburgh



In the UK, more than 2.5 million citizens suffer from a loss of hand strength or coordination. 87% of all stroke survivors experience hand paralysis, and it crushes independence. To assist with walking, we have crutches and wheelchairs, but there is no such device to assist with grip. The Grip Assist glove is a new novel product which combines breakthrough advances in robotics and digital signal processing. The glove improves hand strength, putting the hand in specific positions dictated by the muscle activity along the wrist and forearm. Grip Assist aims to put revolutionary technology in people's hands.

🐦 @bio_liberty

Circular Materials Depository

Lynn Wilson
University of Glasgow



During the product design process, material consideration and selection are key to the success of a product, but designers and industry are often confused about which materials can be reused, recycled, bio-degraded and reprocessed. This leads to contamination at end-of-life disposal. The Circular Materials Depository is a one-stop hub subscription service providing advice, guidance and information about sustainable materials. The service has been designed for anyone looking to understand the complex world of materials for sustainably designed products that serve the purpose they are intended for. This includes businesses, education and individuals.

Impact Challenge semi-finalists:

ConcussEd

Stephanie Adams

University of Edinburgh



Concussion is part of a £15 billion headache for the NHS annually, with potential to cause long-term damage to individuals. 50% of concussions still go undetected or unreported due to lack of understanding about symptomology and seriousness, and as a result, mismanagement is common. Much of this can be avoided locally with better prevention and injury management systems, and effective knowledge dissemination is critical yet often poorly executed. ConcussEd addresses this through evidence-based concussion education solutions for sports organisations, universities, coaches, teachers, parents and athletes that focus on changing knowledge, attitudes and bad culture to positively support health and wellbeing.

[@concuss_edu](#)

eMoodie

Claire Ann Banga

University of Edinburgh



eMoodie is a digital mental health platform which facilitates early screening, and tailored symptom-management. We do this by pairing an individual's self-reported symptoms with their smartphone sensing data in combination with AI-driven algorithms to determine their current problems and engage them in digitally delivered interventions. Our solutions are aimed at giving individuals the tools they need, as early as possible, to effectively manage their mental health - thus preventing deterioration of milder symptoms into clinical disorders. The mounting tide of mental health problems in our society is at a crisis point and eMoodie is positioned to help flatten the curve.

[@eMoodieLabs](#)

Empowering Local Energy Group

Katherine Frangos

University of Edinburgh



Imagine a future where global energy consumers are empowered to make decisions that affect their everyday lives. People want to reduce their fuel bills while reducing carbon emissions – and ELE Group aims to empower communities to achieve these goals at the intersection of community engagement and energy technologies. ELE's interdisciplinary expertise in energy systems analysis, education, and project management acts as a catalyst for community-led discussions on planning their local energy journey. Our holistic technical advice will act as a stepping-stone to develop subscription, education and software-based energy solutions in partnership with community organisations, local councils and utility companies.

[@EmpowerELE](#)

Grand Bequest Ltd

Katherine Gunderson

University of Edinburgh



Grand Bequest is a property technology company that saves old buildings at scale. With a free mobile app and an online platform, Grand Bequest is built with sustainability, conservation best practice, and state-of-the-art data analytics at its core to help communities take action and take back their buildings. By introducing an entirely new layer of simplification and community engagement to the currently painful, expensive, and time-consuming process of reactivating vacant or at-risk properties, Grand Bequest's technology is revolutionising the way we all look at saving, retrofitting, and maintaining properties for a greener tomorrow.

[@GrandBequest](#)

LU

Erin Reid

Edinburgh Napier University



Military personnel spend long periods of time in rural, often unhygienic environments, making it hard to stay hygienic. However, because menstruation is seen as a hassle, inconvenience, and a women's problem it is not catered for in training. 83% of surveyed Army women agreed that they did not receive enough information or resources regarding menstrual hygiene putting them at risk of toxic shock, UTIs or cervical cancer. LU understands military menstruators' needs and answers them in an easy-to-use product while helping to provide training guides for staff, eliminating the taboo in one of the most masculine, male dominated environments.

[@TheLU.uk](#)

Maddie is Online

Konstantina Martzoukou

Robert Gordon University



'Maddie is online' is an online video cartoon series which addresses the everyday life experiences of pre-teen children in the online connected environment, and empowers them with skills that help them deal with challenging phenomena in their digital lives (e.g. online bullying, managing online information, copyright and ownership, privacy and security, online reputation). It is available for parents, teachers and librarians who may lack knowledge, resources or time and offers accessible, engaging and fun cartoon stories, training workshops and digital lesson plans that can be incorporated into different school subjects or used at home in a cost-effective and accessible way.

[@MaddiesOnline](#)

Impact Challenge semi-finalists:

Metacarpal

Fergal Mackie

University of Strathclyde



When an amputee visits a prosthetist, they get the option of a state-of-the-art electronic hand or an old body-powered hook. This is not the simple choice it appears to be. Despite decades of development, electronic devices are still heavy, expensive and incredibly fragile. Hooks have none of these drawbacks and actually function far better than electronic devices. Yet, understandably, many users are put off by the way they look. We are the first company to develop the old body-powered products into something exciting that users want to wear. And, through engineering innovation, this advances upon the functionality that users already love.

[@MetacarpalUK](#)

Scrapp

Evan Gwynne Davies

Heriot Watt University



Scrapp is a green-tech start-up on a mission to make recycling simple. With our free app, we aim to remove the barriers for anyone to make informed disposal decisions and encourage their sustainable habits as a conscious consumer. With a quick scan of a product's barcode, Scrapp shows the user exactly how to dispose of a product's packaging correctly - according to their local authority's recycling rules. By working with consumers to get it right, we can minimise contamination at the source and kickstart a circular economy that begins at the bin.

[@ScrappRecycling](#)

Silver Lion Innovations

Ruth Crozier

University of Strathclyde



Silver Lion Innovations Ltd is a Scottish family start-up which focuses on digital health solutions that allow people with immobility to self-manage their condition and promote their independence. It was founded after CEO Ruth Crozier's experience in caring for a parent managing their Parkinson's Disease for the past 14 years. The first product 'EasyOver' is a 'smart' mattress topper powered by technology that safely turns people with mobility issues over in bed, facilitating uninterrupted sleep for the person and those who care for them. Ultimately, we exist to provide healthcare solutions for better, easier and longer living.

[@easyoversleep](#)

WallBo

Amol Deshmukh

University of Glasgow



Globally half a million children die annually from diarrhoea and respiratory diseases and a further 8 million are infected. Effective handwashing can save 50% of these deaths and infections. Our business will deliver a novel and exciting solution to teach, monitor and encourage handwashing for school children in a fun and engaging way. "WallBo"- a cost-effective, portable social robot endowed with artificial intelligence - will boost hand hygiene compliance by more than 40%. WallBo will reduce germ transmission, minimise spread of COVID-19, save healthcare costs and save lives. WallBo can provide a 60-fold return on investment on healthcare costs annually.

[@WallBo_robot](#)

Converge Challenge

Converge Challenge is for novel business ideas with solid intellectual property foundations, high commercial potential and evident scalability.

The 2021 Converge Challenge semi-finalists...

Algacraft

Mate Ravasz

University of Edinburgh

The algae industry is expanding to satisfy growing demand for nutrients as well as helping to achieve a more sustainable agriculture and to reduce waste. The single biggest challenge for this fast-paced market is poor understanding of optimal algae growth conditions. We have developed a sophisticated photobioreactor that accurately measures algae performance in an automated way and plan to sell these units on license to research organisations. At the same time, we will use a cluster at our lab to offer growth optimisation services to biotech companies while developing novel, patentable alga strains that we can sell for further revenue.



[@algacraft](#)

AskMyClass

David Martin

University of Dundee

AskMyClass is a next generation audience response system that goes beyond the constraints of fixed answers and linear progression. It structures conversations between presenter and audience, allowing realistic question and open responses, taking that small group discussion feel to audiences of hundreds or even thousands. AskMyClass runs on your device, bringing you into the presentation as a participant, not just as an attendee no matter how large the audience or how geographically diverse. Based on solid pedagogical principles in a leading UK University it has been described as the tool you didn't know you really need.



[@AskmyclassR](#)

Bridging the Gap Academy

Mostafa Khalil

University of Dundee

Bridging the Gap Academy is a medical education platform, aiming to deliver world-leading, pre-recorded and live courses to students and doctors to bridge the gap and complement teaching materials delivered by different universities. Additionally, we will offer similar courses for junior doctors who are sitting post-graduate exams and interviews. Moreover, we will have a variety of courses that are accredited continuous professional development.



[@bridgingacademy](#)

Edenbreeze Ltd

Reginald Ankrah

Robert Gordon University

Soft drinks have faced several challenges and opportunities since the introduction of the soft drink sugar levy in the UK in April 2018. Producers not only reformulated their beverage ranges, but they saw the chance to relaunch the soft drinks industry, introducing new products with new sophisticated flavours. Our product is a premium quality soft drink with values embedded in family, heritage and wellbeing. Its inspiration comes from a traditional African recipe handed down through generations blended with the natural spring waters of Scotland, creating a deliciously refreshing infusion of natural flowers, fresh fruits and delicate spices.



[@edenbreezeuk](#)

Converge Challenge semi-finalists

Exergy 3

Markus Rondé

University of Edinburgh

Through storing energy at low cost, we have the ability to reduce the CO2 emissions of thermal power plant operators by 50-70%. This solves two key problems for thermal power plant operators. Firstly, operators can use our technology to manage zero and negative pricing of electricity due to excess generation without demand. Secondly, they can reduce the amount of green-house gases they produce. Our high temperature thermal energy storage technology can store 40MWh (thermal) in a 40-foot shipping container with only 0.6% energy loss per day. The innovative insulation structure allows us to build compact, cheap energy storage systems.



Fertility Genomics

Ondrej Dlask

Abertay University

Fertility Genomics is a genetic testing company formed by a team of dedicated scientific experts in the fields of physiology and genetics of reproduction. We offer a fertility DNA test that can discover genetic mutations causing unexplained infertility. Such mutations affect either the sperm or ovum and are likely to prevent fertilisation naturally or by assisted reproductive technology (IVF or ICSI). Following the DNA extraction, sequencing and analysis, Fertility Genomics provides actionable genetic information in the form of Fertilisation Probability Score that can be used to inform the best assisted conception treatment, thus maximising the chances of successful conception.



@fertilitygenomics

Fitabeo Therapeutics Ltd

Mallikarjun Chityala

University of Strathclyde

Fitabeo Therapeutics (FTx), a University of Strathclyde spin-out company, will be incorporated in April 2021. FTx will be a specialty pharmaceutical company developing new medicine platforms for patients with advanced incurable diseases. FTx will use novel, patented technology to focus on the development of immediate and controlled release oral thin films (OTF) for palliative care.



@FitabeoTx

Glen Clova Scientific

John Foerster

University of Dundee

Tiny, nano-scale sized “footballs” derived from virus shells, called “Virus like particles” (VLPs), form the basis for vaccines such as the cervix cancer jab. Such VLP nano-footballs could, in many cases, replace treatments with expensive drugs otherwise known as “biologics”. However, the complexity of VLP manufacture has so far prevented wide-scale application. Glen Clova Scientific has devised a novel technology that simplifies VLP manufacture and has the potential to catalyse development of medical treatments which could be made available at the fraction of the cost of “biologics”, lowering drug costs for health care providers and patients.



@clova_glen

Converge Challenge semi-finalists

Lightwater Sensors

Ross Gillanders

University of St Andrews



Lightwater Sensors, winner of the 2020 Converge Kickstart Challenge, answers the critical need across the planet for real-time water pollution detection. A hand-held, portable system that can be deployed in waterways can save time and money for monitoring the cleanliness of water and reduce the impact in responding to a pollution event. Drinking water is a major focus for this technology, and water quality is of significant interest to industries including food & drink, agriculture, mining, power generation, oil & gas, and also reduces public health risks caused by pollution.

[@LightwaterSens](#)

Lupovis

Xavier Bellekins

University of Strathclyde



Lupovis is a software-based innovation provisioning a dynamic AI-driven deception environment that enables the definition and execution of cyber-attack mitigation strategies. Lupovis provides early cyber-attack identification, dynamic management and classification of breaches. Lupovis manages the hacker's evolution through the network by providing the individual with enriched engagement tools, extending the time window for operators to respond with the most effective countermeasure. This inherently reduces the impact of a breach, while maintaining the operational integrity of the infrastructure.

[@LupovisDefence](#)

Mako Aerospace Ltd

Kieran Duncan

University of Strathclyde



At Mako, our mission is to create the engine technologies required for sustainable flight. The key to a future with zero-emission flight lies in new electric propulsion technologies and we're drawing experience from some of the biggest aerospace companies in the world to develop them.

Our first product is an "electric alternative to the jet engine". Essentially an extremely efficient and light electric motor that drops aircraft fuel costs by 60% and enables >600km all-electric flights on today's battery technology, opening up the potential for ultra-low cost electric air travel.

Mask Logic Ltd

Alistair McConnell

University of Edinburgh



The Covid-19 Pandemic has brought to light a harsh truth that the NHS was ill-equipped to provide comfortable, correctly fitting FFP3 masks to protect staff. Mask Logic offers an alternative solution in the form of individually fitted, reusable FFP3 masks. The customer uses our app to upload three selfies. Our system creates a 3D model which we use to manufacture a mask contoured to their face. Unfortunately, the nature of Covid and the prospect of future pandemics mean that society will continue to rely on facemasks. We also know that protective facemask use extends to other industries e.g., construction.

Mercel

Mark Dorris

Edinburgh Napier University



Mercel is a spin-out company from Edinburgh Napier University. The company makes a range of sustainable material products using patented seaweed nanocellulose technologies. As a natural polymer, nanocellulose addresses the growing demand to replace many synthetic, fossil-fuel derived materials with sustainable alternatives. Nanocellulose from other sources have commercial and technical limitations however, which seaweed derived nanocellulose avoids. Mercel focusses on four applications for which seaweed sourced nanocellulose has clear competitive advantages. These are impact resistant materials, research materials, super absorbent biopolymers, and drug delivery systems. Products are in development with industrial partners and potential customers.

[@MercelSeaweed](#)

Mi:RNA Ltd

Dan McGarty

SRUC



Mi:RNA offers reliable, early stage disease testing for the veterinary market. Using biomarkers with bespoke A.I. modelling, a variety of diseases can be accurately identified in a wide range of species. This novel test is quick, highly sensitive and specific and requires only a simple blood sample. The technology is globally applicable and will revolutionise issues of food safety, agricultural sustainability and animal welfare.

This patent pending innovation facilitates improved clinical outcomes, provides critical economic and environmental advantages, and is easily accessible. We are led by a team of experts and by engagement with vets, owners and farmers throughout the UK.

[@MIRNA_Diag](#)

Converge Challenge semi-finalists

Microplate Dx

Stuart Hannah

University of Strathclyde

Current antibiotic susceptibility testing (AST) is expensive and time consuming. Meanwhile, the wrong antibiotic may be prescribed which can be detrimental to patient health and can drive antibiotic resistance (AMR). New diagnostic tests are vital to improve patient care, to mitigate development of resistance and to facilitate better antibiotic stewardship. Microplate is a rapid, low-cost, sensor-based, antibiotic susceptibility test. With the potential to be agnostic to sample type, Microplate provides a summary indication of which antibiotic to use for each patient with bacterial or fungal infections at the point-of-care.

🐦 @microplated



Morphic Technology

Jeremy Viner

University of Edinburgh

Morphic Technology has been established to provide those who enjoy outdoor sports with increased safety and peace of mind. Through a seamless voice-based chat and peer-tracker system, users can speak easily and remain in contact with group members during their activity, regardless of where they are. No more worrying if a group member takes a wrong turn or needs support, plus safely draw attention to a point of interest along your journey.

🐦 @joiin_in



Net AI

Paul Patras

University of Edinburgh

Net AI's Microscope is a cloud-native technology that uses artificial intelligence to disentangle massive data traffic streams into the individual mobile services that make up such aggregates (including Netflix, Facebook, Spotify, etc.). This allows mobile network operators to see how much traffic is coming from any given service, at any given time and from which location, at any level within the network (from base stations, all the way to core datacentres). Our solution enables efficient allocation of resources, saving costs and ensuring Quality of Service. Unlike conventional packet-based traffic analysis, Microscope is scalable, encryption-agnostic, and non-intrusive.

🐦 @NetAITech



PlusPEP Ltd

Peter Barlow

Edinburgh Napier University

"No cure for the common cold?"; After one year of social distancing, our exposure to Rhinovirus, the primary cause of the common cold, is low. As the Covid-19 pandemic subsides, we will again be challenged by circulating viruses, typically responsible for 26.1 million UK sick days (ONS, 2021). Made in Scotland, patent pending with Proof of Concept demonstrated against Rhinovirus, PlusPEP®, promises to be Scotland's first "antiviral, immunity boosting supplement pill". Exported globally, selling direct online or through Pharmacies and Supermarket chains, Edinburgh Napier spinout PlusPEP Ltd aims to secure first revenues within the \$29Bn Global Immune Health Supplements market by late 2021.

🐦 @PlusPEPUK



Power to Go Hydro

Ken Morrow

Robert Gordon University

Power To Go Hydro has applied 20 years' experience in manufacturing strong, durable, textile products for the oil and gas industry, to develop Hydrowheel, the world's first inflatable waterwheel. It floats across rivers and streams to generate affordable, accessible renewable energy - with less damage to the local ecosystem. Hydrowheel emphasises lower costs, durability, easy installation and continuous power production rather than prioritising efficiency. This will produce a faster return on investment in wetter, less sunny climates like Scotland but also a more accessible electricity source in emerging markets with less developed infrastructure.

🐦 @powerto_go



RhaPSeda

Helge Dorfmueller

University of Dundee

A subgroup of streptococcal bacteria, known as 'StrepA', kills over 500,000 people, causes over 700 million infections annually worldwide and is showing increasing antibiotic resistance. Despite the high incidence rate, there is currently no StrepA vaccine, and this has been made a WHO priority. RhaPSeda, an established and patented innovative vaccine production platform, will lead the field and be the first to recombinantly produce universal dual hit StrepA vaccine candidates. The platform bypasses a number of highly complex chemical synthesis steps, significantly cutting production costs and may also be applicable to vaccines for other streptococcal subgroups.



Converge Challenge semi-finalists

Skrambla Intelligence Ltd

Ashan Abeyratne
University of Stirling



Skrambla is an Edinburgh-based digital marketplace for tours and activities. It aggregates lesser-known local experiences, for users to book online. Tours and activity providers have access to upload and manage their product offerings through the platform. It primarily targets millennial travellers, as they are constantly seeking out new activities that are unavailable at home. Skrambla fills this void by offering unique and authentic experiences that are different to what's already out there in the market. Scotland is Skrambla's inaugural destination, and it plans to progressively expand its portfolio to other countries in the world.

🐦 @Skrambla1

Softech

Luigi Manfredi
University of Dundee



Colorectal cancer (CRC) is the third highest cause of cancer death worldwide and in the UK. Early detection and removal of pre-malignant polyps can reduce the mortality rate by up to 70%. Softech is developing a disposable, low-cost, soft colonoscope to examine the large bowel with minimal discomfort. Softech offers disruptive potential to replace the current widespread, traditional procedure of optical colonoscopy (OC), including a dual capability of investigation and performance. Softech will overcome the significant limitations of OC: patient pain and discomfort, high costs and decontamination, as well as having a steep and long learning curve.

🐦 @SoftechRobotics

SoOLED

Tomas Matulaitis
University of St Andrews



Displays based on organic light-emitting diodes (OLEDs) have some of the highest performance levels currently available. Consequently, OLED displays are rapidly gaining increasing market share in mobile phones, smart watches, some large area TVs and increasingly in automotive displays and lighting. For OLEDs to become broadly successful, their fabrication must become cheaper. Solution-processing is a fabrication technique that it is cheaper, uses less energy and generates less materials wastage. However, it has not been widely adopted and one bottleneck is the availability of suitable emitters. This project aims to commercialise emitters that are ideally suited for solution-processed OLEDs.

🐦 @TomasMatulaitis

SoundOFF

Mateusz Leputa
University of Aberdeen



SoundOFF tackles noise-induced hearing loss faced by many workers in the manufacturing, oil & gas, and construction industry with a selective noise control solution. Our aim is to prevent noise-induced hearing loss effectively with noise selection software engineered and tailored for hearing defenders by eliminating loud noises, one sound at a time. Our solution uses machine learning to allow users to select the sounds they want to hear such as speech, warning signals, and moving vehicles while eliminating unwanted machinery noise. As a result, companies will have a productive, safe and protected workforce where timely communication can take place.

🐦 @MateuszLeputa

Theo Health

Jodie Sinclair
University of Dundee



theo® is an app and wearable device that combines muscle sensors with algorithms, enabling you to measure and track your muscle development, even before progress is visible. theo® acts as a motivator for the user, while providing their physiotherapist with greater insight into their recovery. Progress can be checked at any time and in any place, as the platform allows for remote monitoring. theo® can prevent injured athletes from all over the world going through unnecessary turmoil and facing their battle alone. Not just limited to ACL rehabilitation, theo® can be used across any muscle group and for fitness development.

🐦 @theoHealth

Virtual Education Technologies

Scott Howie
University of the West of Scotland



The vision offered by 'Virtual Education Technologies' is to transform training and education world-wide using Virtual Reality (VR). Through our innovative patent-pending VR technology, we will provide services to companies within the training industry to package practical training operations into VR simulations, that can be deployed world-wide. Our innovative assessment and feedback technology - which has been evaluated with industry training experts - can fundamentally revolutionise how companies educate, train and assess trainees. In our vision, traditional classroom-based training companies will be re-imagined into global training hubs that provide virtual training, monitoring, assessment, and feedback to trainees globally and on-demand.

🐦 @ScottHowieUK

Converge Challenge semi-finalists

WellFish Diagnostics

Brian Quinn

University of the West of Scotland

Scotland's salmon farming sector is worth over £2 billion to the country's economy. Despite its importance, fish health is currently assessed using slow, lethal techniques. Aquaculture Health Laboratory has developed rapid, non-lethal methods to assess fish health using re-purposed human diagnostic assays. We have essentially developed blood tests for fish to enable the development of a novel, pro-active fish healthcare model. Clinically significant results are available to fish health managers within 24 hours of analysis via a mobile app facilitating data-informed husbandry. This approach minimises the time between health challenge diagnosis and intervention, reducing mortalities and increasing productivity.

 @WellfishD



X-Genix Ltd

Rebecca Goss

University of St Andrews

Over 90% of pharmaceuticals are manufactured using a process called halogenation which bonds carbon to a halogen (typically chlorine, bromine or iodine). This is conventionally called a C-X bond. Over 20% of pharmaceuticals, including drugs used to treat medical conditions such as cancer, diabetes, high cholesterol, stomach ulcers, anaemia, asthma, epilepsy, contain this X-factor in the final product. Whilst the ability to selectively make C-X bonds is essential, current chemical methods to achieve this are inefficient, expensive and require toxic chemicals. X-Genix uses natural tools (bespoke enzymes and salt) to selectively install C-X bonds without waste and reducing costs.

 @X-Genix



Xavier Bionix

Firas Bakri

University of Dundee

Xavier Bionix is developing Cyclops, a software application that automatically segments and converts medical imaging modalities, such as CT and MRI scans, to produce 3D models. These models are used in mixed reality applications to assist orthopaedic surgeons, doctors, medical professionals and patients in collaborative training, teaching, education and pre-operative planning.

 @xavierbionix



What's next for our semi-finalists?

Pitching at Inside Innovation is just one milestone in our cohort's journey. They've just completed a comprehensive training programme and will now embark on producing their business plans for submission in early August.

Together with semi-finalists from our early-stage Kickstart category, they'll then go forward to the final judging in September with the finalists announced shortly afterwards.

The winners and runners up in each category will be announced at the 2021 Converge Awards on 30 September.

Prize pot

The prizes at stake are:

Converge Challenge	£2k Finalist	£20k Runner-up	£50k Winner
Creative Challenge	£2k Finalist	£10k Runner-up	£20k Winner
Impact Challenge	£2k Finalist	£10k Runner-up	£20k Winner
Kickstart Challenge	£500 Finalist	£5k Runner-up	£10k Winner

All winners are eligible for tailored packages of in-kind support from our professional partners too.

Special awards

There are also three special prizes to be awarded this year

The Rose Award

Awarded to an aspiring female founder from this year's pool of Converge semi-finalists and designed to boost female entrepreneurship in Scotland, the prize includes £10k in cash plus a money-can't-buy mentoring session with the Royal Bank of Scotland's CEO, Alison Rose.



Sponsored by The Royal Bank of Scotland

The Future Tech Award

Designed to support innovative technology start-ups emerging from Scotland's universities, one lucky winner from this year's Converge cohort will win £5k in equity free cash plus a package of in-kind support including a mentoring session with Cisco UKI, CTO, Chintan Patel and a 12-month package of tailored Cisco support including technology and advice.



Sponsored by Cisco

The Net Zero Award

This prize of £20k equity-free cash and appropriate in-kind support will be awarded to a climate-conscious entrepreneur developing new technologies or solutions to create a cleaner, greener and more resilient world.



Sponsored by SSE

Our funders and partners

Converge is funded by the Scottish Funding Council, all 18 Scottish Universities and Creative Scotland. We are very grateful for their funding and support.

Funders



Partners



The Royal Bank of Scotland is a UK-based banking and financial services company, headquartered in Edinburgh. Royal Bank of Scotland has paved the way in banking since it was established nearly 300 years ago. From the world's first overdraft, and the first house purchase loan by a UK bank, to the first fully-fledged internet banking service, the bank has a history of using innovation to make banking easier for their customers.



MBM Commercial is an award-winning commercial law firm that helps entrepreneurial businesses. The firm provides a full range of commercial legal services, including corporate finance, commercial contracts, insolvency/restructuring, commercial property, dispute resolution, employment/HR and company administration.



Murgitroyd is a global intellectual property (IP) attorney firm specialising in patents, trademarks, designs and copyright, helping companies of all sizes, from all sectors, to maximise value from their IP assets by providing tailored strategic advice and services. The Murgitroyd team has particular expertise in helping start-up businesses to grow and develop through good use and protection of their IP assets.



Social Investment Scotland (SIS) provides social loan finance and business support to social enterprises and charities across Scotland. SIS, a charity and social enterprise itself, seeks to support organisations scale their impact and increase sustainability through investment and additional support and training. SIS is sole sponsor of the Impact Challenge category providing both cash and in-kind business support to our Impact Challenge participants.



i4 Product Design is an employee-owned company with a +15-year track record of working with start-ups and multinationals to deliver commercially successful products. Clients utilise the i4 Product Design team to accelerate challenging roadmaps and/or innovate a way past technical challenges.



BeyondHR is an HR consultancy with a proven track record of providing high quality and affordable HR support solutions across Scotland and Northern Ireland. With more than 25 years' experience, their team of qualified HR Consultants provide a full range of HR and Employee Relations support services across all industries. They take a pragmatic stance to problem solving and ensure that they make the lives of their clients pain-free by taking the stress out of HR issues while ensuring the best outcomes for their businesses.

Partners

Chiene+Tait

CHARTERED ACCOUNTANTS

The team at Chiene + Tait has an unrivalled knowledge of the Scottish investment and startup market. From their market leading Entrepreneurial Tax team that offer advice on Enterprise Investment Schemes (EIS), Seed Enterprise Investment Schemes (SEIS), Enterprise Management Incentives (EMI) share schemes and Research & Development (R&D) Tax Relief, through to their digital solutions focused accounts team, they are here every step of the way to provide clients with honest advice and tech-savvy solutions.



CPI Enterprises is the private investor engagement and ventures arm of CPI, a leading independent technology innovation centre and a founding member of the UK Government's High Value Manufacturing Catapult. Enterprises stimulates impactful investment into early-stage deep tech companies, leveraging our world-class technical expertise, facilities and innovation network to benefit both investors and companies alike.



Cisco helps seize the opportunities of tomorrow by proving that amazing things can happen when you connect the unconnected. An integral part of our DNA is creating long-lasting customer partnerships, working together to identify our customers' needs and provide solutions that fuel their success. Nearly every Internet connection in the UK touches Cisco technology and we're investing in projects across Scotland to support innovation, from smart cities to transport, healthcare and manufacturing, to cyber-security and digital skills.



SSE is the leading generator of renewable electricity in the UK and Ireland, providing energy needed today while building a better world of energy for tomorrow. A principal partner of the upcoming climate change summit COP26, it develops and operates low-carbon infrastructure supporting the net zero transition, including onshore and offshore wind, hydro power, electricity transmission and distribution grids, and efficient gas-fired generation, alongside providing energy products and services for businesses. UK listed, SSE is a major contributor to the UK and Ireland economies, employs 12,000 people and is real Living Wage and Fair Tax Mark accredited.

CONVERGE



Inside
Innovation
2021

www.convergechallenge.com