



Business Overview

March 2023



Summary

IDEMS IDEMS is a profitable, not-for-profit social enterprise with guiding [ethical principles for impact](#). We are ambitious in our organisational growth to achieve our social impact ambitions. We work in a cooperative, distributed way based on openness and transparency to support inclusion, leadership development and accountability.

Purpose We work with partners to:

1. support communities to build bespoke digital tools that tackle inequalities.
2. put social research evidence and findings into action, maintain integrity from policy to practice and share impact data.
3. deliver social impact at scale.
4. strengthen mathematical science education as a catalyst for social change.

Enterprise We deliver on contracts, grants and consultancy projects to:

1. design and develop open source digital tools.
2. provide data science consultancy, training and mentoring.
3. conceive and implement digital ecosystems.
4. support educational institutions.
5. enable data science-driven development for social enterprises.

Impact Through collaborative partnerships we create:

1. social impact by improving health, wellbeing, equality and resilience.
2. environmental impact by increasing climate understanding, action and mitigation and supporting agroecology.
3. economic impact by increasing employment opportunities and social entrepreneurship.
4. educational impact by supporting improved learning across academic levels.

Partners Our key partners are:

1. universities and research institutions seeking to achieve real-world impact through their research.
2. public bodies and development agencies working to deliver on the [UN's Sustainable Development Goals](#) (SDGs).
3. foundations and social investors fulfilling their strategic aims to build public good, advance knowledge and achieve impact.
4. businesses and social enterprises utilising data science to create commercial advantage and/or community impact.

About IDEMS

Our Background

IDEMS was conceived by mathematical scientists, with long term experience working in education and development, looking to have a greater impact beyond academia. Our origins have given us an appreciation of deep understanding and knowledge, which translates into a preference for long term collaborations rather than quick fixes. Our drive for impact leads us to search for practical solutions rather than ivory tower studies.

Vision

Impacting grand challenges: seeing paradigm shifts in the world's most important problems.

Mission

Working collaboratively with diverse partners to enable the evolution of innovations which can impact lives all over the world.

Legal Structure

IDEMS is a not-for-profit Community Interest Company limited by guarantee with an asset lock ([schedule 1](#)). This structure enables us to be defined by the communities we serve while doing business commercially.

Serving a community gives us a sense of purpose beyond our own self interests as individuals or as a company. Our financial surplus is reinvested into core programmes, educational support and the development of our people and organisation.

Operating commercially gives us the independence to follow our own path and pursue our ambitious growth agenda.

Community and stakeholders

The community we serve is global. Through development, education and mathematical science, our objective is to improve people's quality of life, educational outcomes and amplify the impact of positive social change.

Our stakeholders include the overlapping communities comprising educators, charities, social entrepreneurs, community organisations and local NGOs, development professionals, researchers and open source contributors.

Our Work

Our work contributes, with our partners, towards a selection of the UN's Sustainable Development Goals at a strategic level, as illustrated below.



Figure 1. IDEMS' work in relation to the UN SDGs.

Value propositions

IDEMS creates value for its partners in three main ways:

1. **Community-led digital development:** community development is most effective when it's owned and led by user communities themselves. By using and developing open source products and working with local NGOs and agencies, we enable communities all over the world to build the tools they need to tackle inequalities.
2. **Research for impact:** combining experience of pioneering research with an understanding of what's needed for real world impact. By building systems that maintain integrity through research, analysis, implementation and evaluation, we ensure stakeholders learn from each other via evidence.
3. **Adaptive scaling:** to maximise impact it's essential to reach people at scale. However, top-down approaches which readily scale don't adapt well to local contexts, while bottom-up approaches tailored to local ambitions can scale naturally but unpredictably. Our adaptive scaling attempts to combine these two approaches, breeding social innovation.

Products and services

Our key products and services are:

1. the design and development of open source digital tools.
2. data science consultancy, training and mentoring.
3. the design and development of digital ecosystems.
4. the provision of in-person and digital learning support for educational institutions.
5. business development support for data science-driven social enterprises.

Our projects are highly diverse and support impact in a wide range of areas. Major projects and services are outlined below:

Product or Service	Areas	Description
EUMETSAT Support	Climate Data Science	We work with EUMETSAT to develop and deliver training and tools that support the validation and use of climate satellite data.
PICSA (Participatory Integrated Climate Services for Agriculture)	Climate	We support the implementation of PICSA , a highly successful approach for climate services and agricultural extension, in countries around the world, by working with local partners, often the national meteorological services, to analyse historical daily climatic data to provide local climate information for agriculture.
Climate data analysis	Climate	We are tasked by the World Meteorological Organisation and the UK Met Office to train and support meteorological services around the world to recover, analyse and make best use of their historical climate data.
CarbonR	Climate Tech development	We have developed CarbonR , an R package to conveniently calculate carbon-equivalent emissions for businesses and their activities.
Digital ecosystem	Tech development	Through our work on Parenting for Lifelong Health (PLH) and the Virtual Maths Camp developing a suite of digital tools, we are developing an underlying “digital ecosystem” to enable other projects to take advantage of the underlying

		technologies of our apps, chatbots and websites, and make the authoring of content easy for non-technical content specialists.
Parenting for Lifelong Health (PLH)	Data Science Social development Tech development	We are creating a full ecosystem of digital tools and services to support a wide range parenting initiatives for parents and children, including apps, chatbots and websites, with initiatives grounded in research.
Climsoft	Climate Tech development	We contribute to the development of Climsoft , the only African led open source Climate Database Management System for National Meteorological Services, and support its use and implementation in countries around the world to securely store their nation's historical climatic data.
OpenCDMS	Climate Tech development	We are supporting a global effort to design and develop an internationally recognised standard open source Climate Database Management System, OpenCDMS , led by the World Meteorological Organisation, and supporting the partnership between OpenCDMS and Climsoft.
Agroecology Hub	Agroecology Social development	We are supporting partners in Kenya to build a community of practice of organisations committed to agroecological approaches, that value scientific evidence and work together to support farmer research networks to investigate promising agroecological options and innovations.
Research methods support	Agroecology Data Science Social development	We support some amazing agroecological research in West Africa with research methods and statistics, including a farmer federation in Niger doing participatory research with thousands of farmers, nutritionists in Burkina Faso using local legumes to improve child nutrition, and researchers in Mali transforming the local seed systems through farmer led initiatives and participatory breeding.
Early Family Math	Education Tech development	We are developing an app to make the Early Family Math activities for parents and their young children more accessible.

Maths Camps	Education	We support the charity SAMI , and African partners such as AMI and AIMS to run one-week maths camps across countries in Africa to excite and inspire high school students with engaging, relevant and rich mathematical topics in a fun and immersive learning environment.
Virtual Maths Camps	Education Social development Tech development	We joined efforts across Africa and internationally to create a Virtual Maths Camp experience, a collection of events and resources across different countries, platforms and delivery mechanisms with the potential to have long lasting impact, turning the challenges presented by the current COVID19 pandemic into opportunities for students, teachers, and facilitators.
STACK	Education	We are supporting mathematics departments in universities across Africa to use STACK , a system for providing automated, personalised feedback to students answers written as mathematical expressions that is transformative in supporting student feedback in large classes.
R-Instat	Climate Data Science Education Tech development	We are supporting the African led development of a much needed open statistical software, R-Instat , while also building towards our own vision for tailored data analytics.
Internet of Good Things	Social development Tech development	We are redeveloping UNICEF's Internet of Good Things websites which is used to support youth and first time internet users in over 30 countries.
Responsible AI open learning	Data Science Education	Working with the Alan Turing Institute, we have developed a suite of resources for different learning styles to support the responsible development of artificial intelligence and machine learning. We are now sharing these resources to create new consultancy opportunities.
Pro-RUWA research	Agroecology Data Science	To develop future decision-makers for improved resource management and food security, Promoting Academic Capacities for Sustainable

methods open learning	Education	Agricultural Resources Use in West Africa (Pro-RUWA) is a partnership between four West African universities (in Benin, Niger and Burkina Faso) and Kassel university in Germany. Pro-RUWA has contracted IDEMS to produce two hybrid modules for postgraduate students, extending both our data science and Collaborative Crop Research Programme work.
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Our specific expertise cross cutting a number of areas has led to a demand for our services, and an ability to build out a position in each of these markets, doing so from a social enterprise position. The diversity of our products and services portfolio provides us with organisational resilience and are key to our cross pollination strategy as well as offering multiple routes for future growth.

Collaborative Partnerships with our stakeholders

The stakeholders that we collaborate with fall into at least one of three groups: Customers, Users and Innovators. Our collaborative by nature principle dictates that we aim to build long term relationships with stakeholders, which we think of as partnerships. The diagram below represents the relationship between stakeholder groups and types of partnerships we aim to develop.



Figure 2. Stakeholders and Partnerships.

I. Revenue partnerships (with customers)

Revenue partnerships form the solid foundation for our sustainability and profitability. We often build strong relationships with our customers, turning them into partners, with whom we work together towards common goals. This has led to repeat business and long term collaborations with most groups that we work with. These revenue partnerships can take different forms including:

- **Collaboration with research institutions:** the research excellence framework drives UK governmental funding and is giving increasing weight to impact as an evaluation criteria. This is encouraging academics and institutions to prioritise research with real world potential, and look for collaborators to help them produce real world research that can translate into policy and practice. These institutions attract a generally stable level of funding from diverse sources such as endowments, public investment, grants and contracts.
- **Services for development agencies and commissioners:** these agencies deliver directly and/or collaborate with smaller local NGOs to implement social development interventions with specific communities around the world. Ultimately funded by national governments or via multilateral bodies, they value research excellence while prioritising impact. Historically, funding to these agencies has gradually increased, but can be vulnerable to reductions driven by wider economic and political drivers
- **Direct funding:** trusts, public bodies and other investors in or funders of social research and development who generally have more discretion to invest than universities and have typically focused on more real-world interventions, traditionally via grants but increasingly forms of social (blended) and traditional (loan) finance.

II. Strategic partnerships (with innovators)

Many of our key customers are also co-producers who we work with strategically, sharing responsibility for project design, leadership and impact. These include:

- **Academic partners (lead):** where we lead on a strategy of innovation to build up the capacity for the mathematical sciences as a vocation to create positive social impact. In doing this we are directed by the needs and ambitions of our partner's researchers, lecturers and students.
- **Academic partners (support):** where we contribute to a wider strategy of socially aligned partners, bringing our specific skills and expertise to the collaboration, as well as contributing to the design, leadership and direction of specific impact projects.
- **Business partners (lead):** where we provide business critical technical expertise and capacity building to partner organisations who contribute to our social mission. Such collaboration is designed to increase their contribution to our shared values and often enables them to support in the delivery of IDEMS contracts.
- **Business partners (support):** where we provide specialist technical or expert support to organisations in identifying and actioning pathways towards their social goals.

III. Community partnerships (with users)

As a community interest company, we aim to serve our community and continuously engage and consult with stakeholders within it. Our community partnerships, formed through trusted relationships, help to ensure we are best serving the needs of our community and users, as they emerge and evolve over time. These interactions continually inform our work, and how we input to our community. Our main types of community partnerships are:

- **Educational charities and NGOs:** where we partner on education projects, and respond to demands for our expertise, input and funding, for initiatives that positively impact students and educators in Africa, the UK and beyond.
- **Social enterprises & affiliates:** which we support in their establishment as organisations with similar structure and aims as IDEMS around the world, adapted to local needs and contexts, furthering the support for our community.
- **Academic institutions:** with whom we support in the development and delivery of initiatives in the mathematical sciences and other disciplines, which informs our work in other areas.
- **Grassroots organisations:** which we support in directly impacting those most in need, including smallholder farmers, parents and vulnerable children.

Enterprise activities, impact and social value

Our work creates impact in three main ways:

1. **Service delivery:** providing products and services (tools) to delivery agencies
2. **Innovation and support:** leading on the development of best practice, innovation and capacity building for education and community development
3. **Profit reinvestment:** using surplus income from consultancy work in further innovation and support.

As a provider of development tools, there is a direct link between the majority of the activities we undertake and the economic returns and social and/or environmental impacts those tools help to create. In most cases, we work with the frontline NGOs deploying our products to evaluate their usage, immediate outputs and longer-term outcomes.

This means we're often part of collaborations achieving shared impact, where direct attribution - improved relationships within a particular family in Tanzania, or increased crop yields for a specific farmer in Ghana, for example - can't be assigned to a single organisation. We often occupy a specific place in this value chain bridging the gap between expert researchers and development partners.

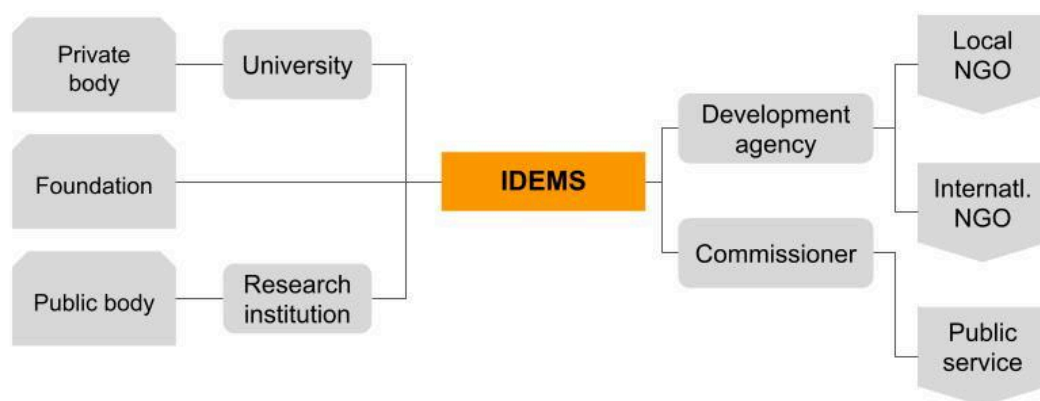


Figure 5. IDEMS value chain to impact.

Case Studies

Service Delivery

The suite of Parenting for Lifelong Health products we have developed with Oxford University increase the health, wellbeing and relationships of families and communities all over the world, reduce child abuse and exploitation and help to increase educational and employment opportunities. Through service delivery, our tools contribute indirectly to the social impact for these families. During the Covid pandemic PLH reached over 200 Million people with their resources.

Innovation and Support

Our work to develop Farmer Research Networks (FRNs), such as those championed by the collaboration that runs an Agroecology Hub Kenya, results in improved understanding of agricultural practices that increase resilience of smallholder farmers. Our provision of innovation and support contributes directly to the operational impact of the FRNs we support including those led by the Agroecology Hub, and indirectly support environmental impacts.

Profit Reinvestment

Reinvesting our surplus into initiatives such as a bridging course for incoming A-level students affected by Covid disruptions in the UK and electronic assessment for students at Maseno University in Kenya, contributes directly to educational outcomes, and indirectly to the economic impact of improved qualifications on career development and employability.

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