MIT REAP (Regional Entrepreneurship Acceleration Pro-gramme)

Boston, USA

Accelerating technology-driven entrepreneurship through a thriving entrepreneurial ecosystem

MIT REAP
Regional Entrepreneurship
Acceleration Program

General Information

Title	MIT REAP (Regional Entrepreneurship Acceleration Programme)
Pitch	Accelerating technology-driven entrepreneurship through a thriving entrepreneurial ecosystem
Organisation	Massachusetts Institute of Technology
Country	United States
Author	Arno Meerman (University Industry Innovation Network)

Nature of interaction

- ☑ Collaboration in R&D
- ☐ Commercialisation of R&D results
- ☐ Mobility of staff
- ☑ Academic entrepreneurship
- ☐ Governance
- ☐ Lifelong learning
- ☐ Joint curriculum design and delivery
- ☐ Mobility of students
- ☑ Student entrepreneurship
- ☐ Shared resources

Supporting mechanism

- ☐ Strategic
- ☑ Structural
- ☐ Operational
- ☐ Policy

Summary

MIT's entrepreneurial spirit has transformed the university into the powerhouse of the New England economy. This experience and expertise led to the launch of the Regional Entrepreneurial Acceleration Programme (REAP). REAP is a comprehensive solution that has been applied to 28 regions to date in order to make similar structured changes at all regional levels. For this, REAP brings together key representatives from government, corporate, academia, risk capital, and entrepreneurial community in order to (1) accelerate innovation-driven entrepreneurship, (2) understand the key drivers of innovation-driven entrepreneurial ecosystems, (3) evaluate the strengths and weaknesses of the regions, (4) design an acceleration strategy and (5) find resources and engage stakeholders to move the acceleration strategy into implementation.

Introduction & Overview

1. BACKGROUND

All across the globe the importance of innovation and entrepreneurship is recognised as a key driver of economic growth and prosperity. At the same time, national and European governments focus **on regional innovation** and **smart specialisation** (RIS3). As a response to this, and based on years of experience in understanding how a region and its entrepreneurial ecosystem function, renowned MIT faculty Bill Aulet, Scott Stern, Fiona Murray, and Edward Roberts launched the **MIT Regional Entrepreneurial Acceleration Programme** (REAP) in 2012.

Emerging as a strong alternative to the traditional executive education and economic development consultation approaches, MIT REAP is a two-year programme that builds on an evidence-based understanding of innovation process at the regional level, to **accelerate innovation driven entrepreneurship** (IDE). REAP primarily aims to assist regions to find sustainable solutions to their development challenges, by guiding them in the design and implementation of strategies for a more engaged entrepreneurial ecosystem through a set of action-based activities.

The launch and the evolution of REAP was partially triggered by the findings of research conducted by professor Edward Roberts, who found out that **MIT alumni have created 25,000 companies with nearly $2t (€1.9t) worth of revenue**, and hundreds of jobs in communities worldwide. Clearly, MIT's entrepreneurial spirit, fuelled by a number of innovation centres, has transformed the university into **the powerhouse of the New England economy**, as well as the successful start-up scene in the Silicon Valley. It was this long-collected experience and expertise that brought the MIT team together to pass on their know-how to the participating teams who want similar changes in their regions.

REAP is built upon four main principles: Translate, Convene, Educate, Impact. REAP *translates* research into methods and approaches for IDE (i.e., MIT REAP Framework), *convenes* stakeholders within a region as well as cross-regionally, and *educates* regional leaders on an individual level and through collective impact. The *MIT REAP Framework* has three primary elements - **system, stakeholder, and strategy**. The *system* pillar refers to the interdependence of innovative capacity (i-capacity) with entrepreneurial capacity (e-capacity) for the creation of a dynamic IDE ecosystem. The *stakeholder* pillar accounts for the inclusive and active engagement among the system actors for entrepreneurial acceleration, while the final element *strategy* explains how the regions should generate strategies that optimise a balance between regional goals, capabilities, and regional positioning. With the REAP framework at its core, the programme so far has completed two rounds, with two additional rounds in active participation with **28 participating regions** to date. These regions have been divided into four so-called *Cohorts,* over the past five years, with six to eight regions in each cohort.

2. OBJECTIVES AND MOTIVATIONS

The objectives of REAP are defined by the MIT team as to:

▶ accelerate innovation-driven entrepreneurship to create vibrant regional economies;

▶ understand the key drivers of innovation-driven entrepreneurial ecosystems;

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▶ evaluate the strengths and weaknesses of the region's innovation-driven entrepreneurial ecosystem;

▶ design an acceleration strategy to strengthen and catalyse innovation-driven entrepreneurial ecosystems;

▶ find resources and engage stakeholders to move the acceleration strategy into implementation.[1]

The objectives of the programme are carefully designed to respond to similar, yet unique development needs of regions across the world. For instance, the Scottish participating team showed interest in REAP in order to take the regional entrepreneurship efforts to national level, internationalise local SMEs, and help them compete internationally. The level of business start-ups and SMEs in Scotland is reported to be satisfactory, however, most do not scale-up. On the other hand, team Southwest Norway decided to join the programme to realise an industrial transition that was seen necessary after the decline of the oil business in the region due to reduced oil prices. Ocean business has been the dominant business sector on the west coast, until layoffs started and projects were terminated in the recent years. The region turned its attention to scale-ups to determine which industries have the potential to grow to have impact. Similarly, motivation for the team Andalucía (Spain), was to translate scientific production into IDEs, economic development, and employment.
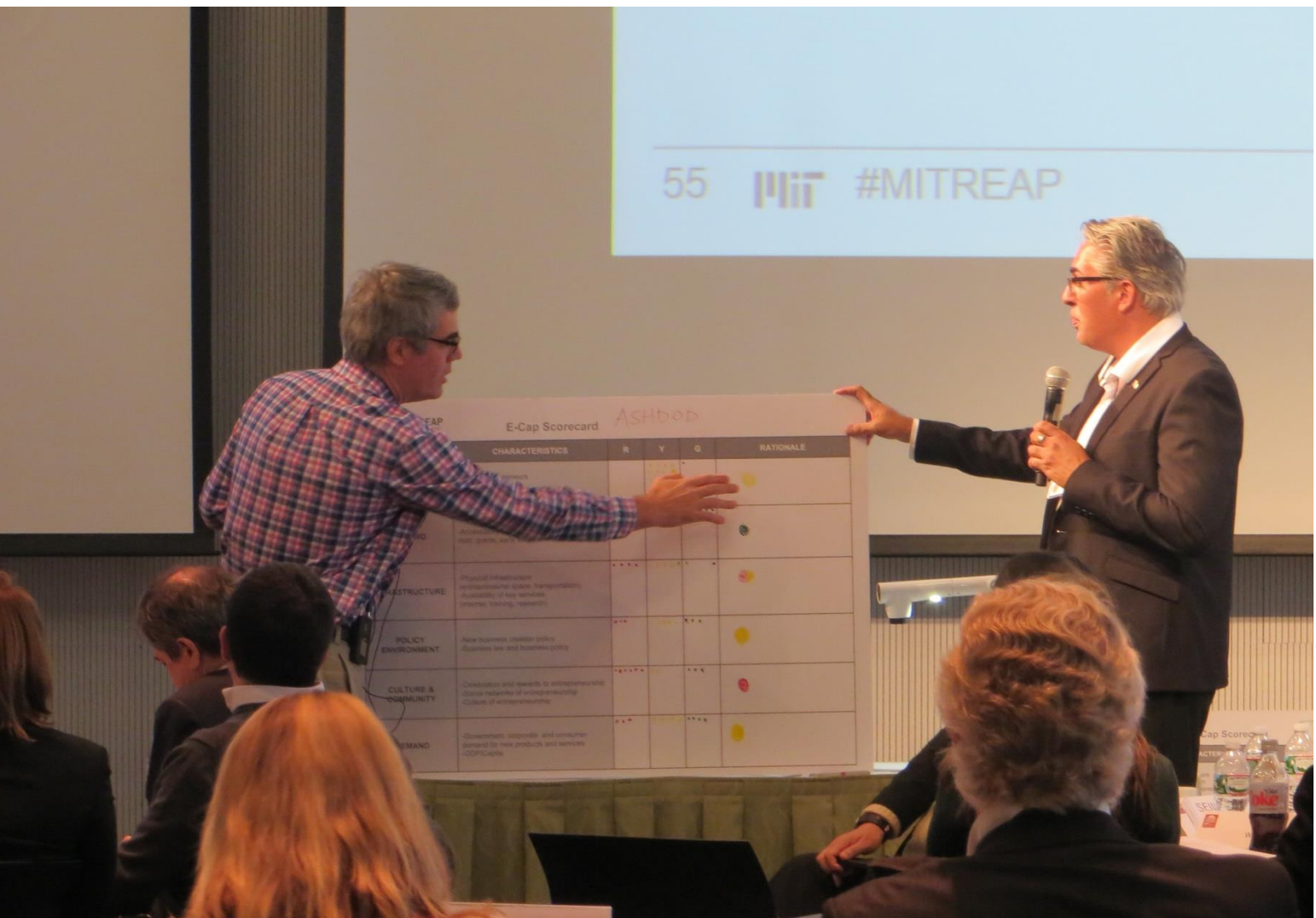
3. STAKEHOLDERS

The *MIT REAP Innovation Stakeholder Model* is built around five major regional stakeholder groups: **government, corporate, academia, risk capital, and entrepreneurial community**. Participants of each regional REAP team are composed of 5-8 highly motivated stakeholders and key players from regions with populations on average between 1-10m. The group is expected to be big enough to represent the ecosystem, and small enough to benefit from inter-regional exchange, team discussions, and for the MIT team to effectively coach during the development and implementation of strategies. The teams are headed by a 'regional champion', and it is of utmost importance for the champion to have strong leadership qualities, as well as social and political capital. The characteristics of the other stakeholders indicated by MIT as an 'ideal team profile' are as follows:

▶ **Entrepreneur**: founder of a tech-based company who is a respected leader in the entrepreneurial community;

▶ **University**: an influential administrator or academic who is responsible for university engagement with the entrepreneurial ecosystem;

▶ **Government**: a senior government representative whose mission is to drive entrepreneurship and innovation in their region;

▶ **Corporate**: employed by a large, influential corporation in the region and responsible for relationships with start-ups, regional innovation, or helping entrepreneurs through mentorship, partnerships or investment;

▶ **Risk Capital**: a leader in the local investment community who has an intricate knowledge of the challenges and opportunities of risk capital in the region.[2]
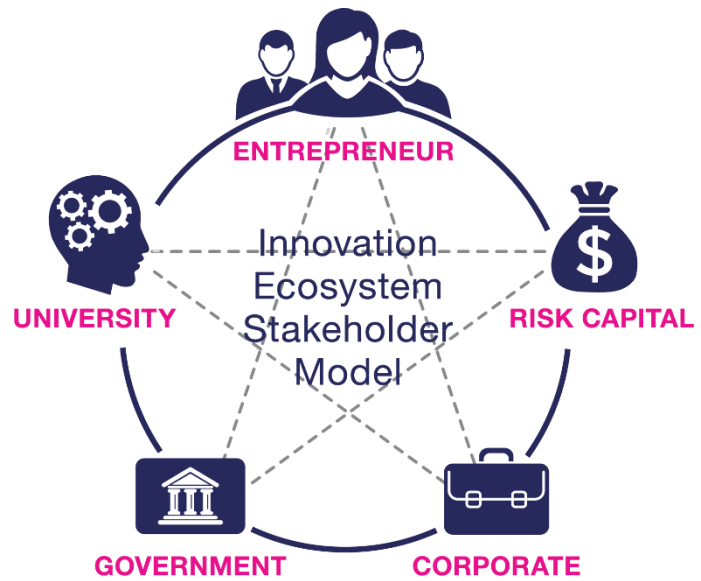
While a limited number of stakeholders are expected for the onsite workshops, opportunities exist for the regional teams to engage more stakeholders in the network in the form of working group models.

Implementation

4. INPUTS

To actually change a region, and make it more innovative and entrepreneurial, the most important input is **stakeholder commitment**. Without the buy-in of important regional stakeholders no real change can occur. This buy-in should not be limited to just the political level, but should be converted into actions in order to drive regional change.

In addition, this stakeholder commitment needs to be backed up by freeing up **financial resources** to make change occur. These resources are needed, for example, to set up new programmes, establish infrastructures, initiative communication campaigns and create capacity to implement these changes. Both the commitment of the stakeholders and financial resources arises through the urgency for change to address specific problem areas in the system that need to be addressed.

When it comes to implementing the MIT REAP programme, the resources invested include the expertise of the MIT team, the facilities and network provided by the MIT, participating regional teams, and the alumni.

5. ACTIVITIES

The two-year MIT REAP programme hosts up to eight regional teams that form a *Cohort* and provides them with an engaging environment to develop a regional action-based strategy towards acceleration of IDE. This process takes place in six phases, which start with the teams undertaking **data-driven diagnoses by assessing strengths and weaknesses** of their entrepreneurial ecosystems. After measuring entrepreneurial quality, the teams **develop an understanding of their comparative advantage** as an innovation ecosystem. Next, the teams **design an acceleration strategy** that will allow them to catalyse a measurable and sustainable change in their regions. Finally, they put their **strategy into action** and **measure their impact through qualitative and quantitative measures using the REAP dashboard.**
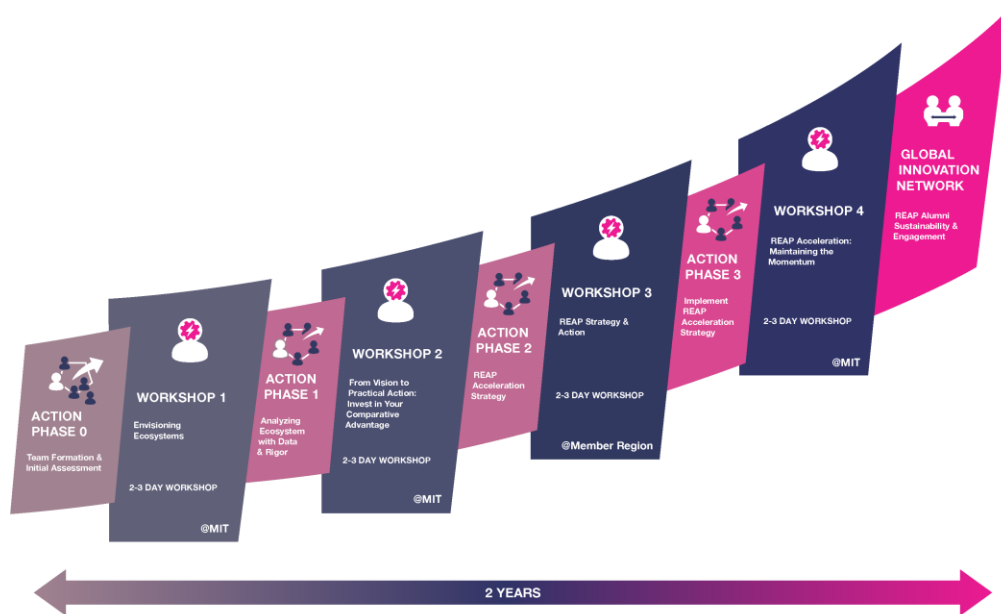
The MIT REAP architecture is composed of four learning cycles over the two years, with each cycle containing a workshop and an action phase:

▶ **Interactive workshops** take place every six months, and typically last two and a half days. During the workshops the regional teams are involved in lectures and discussions, case study analysis, ecosystem engagement tours, group work report-outs, and preparation for action phases. The teams attend two of the workshops at MIT, and the other two at selected member regions.

▶ **Action Phases** are the six-month periods between the workshops, during which regional teams work on deliverables, complete specific projects, coach their network, and implement new policy and programmes. Some example action phase activities and outputs are ecosystem assessments, competition design, and REAP progress reports.

▶ Following the workshop and action phases, regional teams maintain their engagement through the **Alumni Period**. The so-called *REAP Alumni – Global Innovation Network* remain in contact through their REAP strategy implementation and annual MIT REAP conferences, as well as via the REAP website and private online platforms. REAP Alumni are also graduated into 'MIT Sloan School of Management Affiliate Alumni', with special privileges.

Complementary to the learning cycles, the *REAP Dashboard* is a tool that represents REAP's data-driven approach in accelerating IDE growth. The regional teams utilise the tool developing and publishing a unique set of metrics to track regional growth of i-capacity, e-capacity, and other metrics associated with regional entrepreneurship development.[3]

6. OUTPUTS

Depending on their unique regional needs, each cohort has launched initiatives, with some starting before the end of their two-year participation period. The most recent initiatives from the regions in different cohorts are as follows:

Cohort 1

▸ **Team Andalusia** (Spain), has first given the students the opportunity to spend three months at the MIT accelerator, to facilitate student engagement and competition at an international level. The team's second initiative is linked to a European Commission project, where they worked on defining the needs and consolidating the regional cluster by means of measuring regional economic performance. Best practice accelerator benchmarking project is another output in the form of a master's project led by a REAP participant, who aims to find and adopt the best accelerator model for the Granada Health Tech Park.

▸ **Team Finland** established the 'Innovative Cities' programme to boost innovation competition, and started a survey and assessment process to help the creation of a new national accelerator.

▸ **Team Scotland** produced at least three initiatives after REAP. 'Scottish Edge' is an annual competition for entrepreneurs and start-up businesses, which so far has awarded £7m (€8.4m) in funding, as well created 641 jobs and acquired £31.8m (€38.1m) in additional turnover. 'Entrepreneurial Scotland' is a network and leadership development organisation composed of mentors, entrepreneurs, and investors, which has become the backbone organisation in terms of embedding entrepreneurial thinking and the REAP approach in the Scottish ecosystem. Finally, the third initiative 'Scotland Can Do Scale' is a partnership project that helps Scottish entrepreneurs to grow their business via training programmes, summer schools, and teaching assistance offered by professionals at MIT.

▸ **Team New Zealand** established the 'Innovation District', a digital media hub that hosts entrepreneurs, private companies, and universities, along with starting a digital accelerator, and a business plan competition in Auckland.

▸ **Team Veracruz** (Mexico) built 'iLab', a new entrepreneurship organisation that connects young entrepreneurs with private companies.

Cohort 2

▸ **Team London** (UK) launched the London based 'Growth Builder' business scale programme to address challenges related to acquiring funding, new customers, and accessing markets.

▸ **Team Moscow**, has set up a private venture investment fund of $150m (€141.2m) and has developed a high-technology park called 'mHealth'.

▸ **Team Puerto Rico** has established an accelerator called 'Parellel18', promoting Puerto Rico as an innovation-driven society.

Cohort 3 (in progress)

▸ **Team Southwest Norway** is setting up an advisory board for strategy formulation including agents from ministries and agencies, organising an entrepreneurship acceleration summer school for those who have started a new business, established a scale-up acceleration programme of 12 weeks modelled on REAP, initiating a research project on scale-up of companies in order to assist the Norwegian government to adjust their existing measurements, and finally, submitting a policy proposal on tax incentives for scale-ups.

7. IMPACTS

Beyond developing action based strategies to accelerate IDE within their regions, REAP regional teams reached further stakeholders to engage them in the conversations to create a lasting impact.

Team Southwest Norway is taking measures to implement **entrepreneurial thinking in the government** by involving ministries and state agencies in the advisory boards they established. Building a dialogue with the government which does not involve financial benefits but consultation paid off, as the team now has an input in ministerial white papers and strategy reports.

During their programme participation, Team Scotland was active in scheduling formal working group sessions regularly with participants from different sectors to **disseminate REAP lessons**, and collect input from the key actors of the ecosystem. Similarly, Team London put efforts in spreading the REAP approach and insights with the regions across the UK, including agencies and associations, e.g. UK Trade & Investment, the UK Business Angels Association, BT, RBS/NatWest, and Northern Powerhouse, a project proposal to boost economic growth in the North of England.

Support
& Influencing factors

8. SUPPORTING MECHANISMS

The MIT REAP Framework can be considered as a mechanism that has supported the successful implementation of mechanisms that in turn support UBC in the participating regions.

The UBC supporting mechanisms created as a result of the REAP Framework can be divided into: Policies, Strategies, Structures and Operational mechanisms.

The various regions involved have **created or influenced policies** on scaling-up start-ups (e.g. Team Southeast Norway) and providing economic or financial mechanisms (e.g. Team Scotland and Southeast Norway). **Strategies,** being a core element of the REAP programme, have been implemented by various stakeholders and led to embedding entrepreneurship in their region. The strategies are a key element to ensure sustainability and implementation of the activities. It takes time to develop and **implement structural mechanisms**; however, the regions in the *first cohort* have developed a variety of programmes such as the *Innovative Cities* Programme in Finland, *Innovation District* in New Zealand, *iLab* in Veracruz and *Growth Builder* of the *second cohort* team in London. **Operational mechanisms** have been developed on multiple levels, with the *Scottish Edge Competition*, *Entrepreneurial Scotland* and the Andalusian initiative of having students spend time at the MIT accelerator as best examples.

9. BARRIERS AND DRIVERS

Considering the UBC driving factors, **MIT's organisational culture and resource availability have the strongest influence on the success** of REAP. Being among the most entrepreneurial universities for over 100 years, MIT has a proven supporting culture that enables ideas to flourish and materialise. This culture has produced a multitude of programmes and centres for entrepreneurs, and mechanisms for support and funding for start-ups, including e.g. Venture Mentoring Service, Martin Trust Centre for MIT Entrepreneurship, Deshpande Centre for Technological Innovation, D-Lab Scale-Ups, and Industrial Liaison Programme, that supported the launch of a number of businesses with over $2t (€1.9t) worth of revenues.

As regards barriers, it can be argued that MIT REAP may not reach a wide audience due to its **high costs**. The fee of $300,000 (€282,000) that only covers the tuition for two years for an entire team could be unmanageable for certain regions, or could even raise criticism and resistance from the public as happened in Nova Scotia,[4] the Canadian region that has been just admitted to the fourth cohort of the programme.

10. KEY SUCCESS FACTORS

REAP's distinctive approach to executive education and consultation is what sets MIT apart from its counterparts providing similar programmes. As discussed in earlier sections, one of the key dimensions of the approach is the **ecosystem framework** REAP is built on, and another, a **collaborative multi-stakeholder team structure** required for the development of an evidence based regional strategy. Regional teams suggested the same elements as the strengths of the programme, emphasising how the MIT approach leads to the formation of a new entrepreneurial mindset, at both personal and regional level.

Team Scotland and Andalucía (Spain) have particularly benefited from the practice-oriented nature of REAP, that allowed them to start with real case studies, and build upon evidence which worked well with the business community. **Core MIT team qualities** (e.g. being international, confident, and ambitious), have also been mentioned as motivating for the teams to adopt the right attitude while leading change. Similarly, team Southwest Norway found the regional ecosystem framework useful in the way that it provided them with a **comprehensive solution**, rather than a 'quick-fix'. One other success factor mentioned by the team was the involvement of more than 100 local businesses in the new ecosystem, which included entrepreneurs as well, introduced as an additional pillar to the triple-helix model applied in the Scandinavian context.

Further Information

11. MONITORING AND EVALUATION

From the REAP perspective, a diligent system of monitoring and evaluation of the regional team performance is required, particularly for a programme that contains a two-year-long series of workshops complemented with action phases, along with contextual measurements and analysis to be conducted by the participants. To this end, the **Regional Dashboard** comes in as a tool/method that tracks regional growth with regard to entrepreneurial and innovation capacity measured and reported by the teams. The platform emphasises data-driven approach for accelerating IDE, since it requires the regional teams to collaboratively generate metrics to monitor capacity, cluster location segments, and IDE catalysts.

12. SUSTAINABILITY MEASURES

Individual teams have applied **different methods to ensure a sustainable impact** of the strategies they have developed during the REAP programme. As a sustainability measure, team Scotland started with an internal diagnosis process, rather than relying on hastily-taken decisions without consultation. Having conversations with the stakeholders, within the team, doing research, and finally achieving an understanding of the environment and its capacity, shows that they have taken slow but solid steps towards achieving tangible changes in the long-term. As addressed in the impact section, team Southwest Norway's approach to sustainability has been different; in a way they targeted an attitude change in the government end of the framework to back the entrepreneurial transformation in the region at the government level.

13. TRANSFERABILITY

MIT's strategic approach to entrepreneurship can be implemented in different contexts through REAP, since the stakeholders are expected first to understand the climate in their own regions, and later take action applying the REAP framework in their contexts, which represents a customised view of change.

Apart from this, the programme not only ensures stakeholder engagement within regional groups, it also facilitates international collaboration, and allow the teams to compare and learn from each other's regions. In that regard, team Southwest Norway has emphasised that previous cohorts have provided useful insights, particularly in their case Scotland - a country which has a comparable entrepreneurial context that led to site-visits, and replication of some of the Scottish REAP initiatives in Norway.

14. AWARDS AND RECOGNITION

REAP teams already received awards for the entrepreneurial change they set out to drive in their regional communities. One of the most recent examples comes from Mexico, in which the *HUB iLab Veracruz*, an entrepreneurship booster organisation established as an outcome of MIT REAP, has been recognised by the Mexican Government with the 2015 Mexican National Entrepreneurship Award.[5]

15. PUBLICATIONS AND ARTICLES

MIT Innovation Initiative Final Report, URL: http://reap.mit.edu/assets/pdf/MIT_Innovation_Initiative_Final_Report.pdf

Murray, F.; Stern, S. (2015) Linking and leveraging, *Vol. 348 pp1203 Science* http://science.sciencemag.org/content/348/6240/1203.full.

Aulet, B.; Murray, F. (2013) A Tale of Two Entrepreneurs: Understanding differences in the types of entrepreneurship in the economy

16. LINKS

REAP website http://reap.mit.edu/

News article on MIT's global entrepreneurial impact report http://news.mit.edu/2015/report-entrepreneurial-impact-1209

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17. CONTACT PERSON

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REAP Team Andalucía: Lourdes Núñez Müller,
Director of Knowledge Transfer at Granada Health Tech Park (PTS Granada)

18. REFERENCES

[1] MIT REAP URL: https://innovationpolicyplatform.org/sites/default/files/rdf_im-
ported_documents/Stern_IP%20Course_Day3_REAP.pdf
[2] https://reap.mit.edu/assets/pdf/REAP_Ideal_Team.pdf
[3] http://reap.mit.edu/assets/pdf/REAP_FAQ.pdf
[4] http://www.cbc.ca/news/canada/nova-scotia/nova-scotia-leaders-mit-business-elite-dalhousie-province-1.3726515
[5] http://executive.mit.edu/blog/hub-ilab-veracruzan-outcome-of-mit-reapis-recognized-with-a-national-entrepreneurship-
award#.V-0ad_B9600