Back-up

makerSQR

Putting life to Smart City project portfolios

Stefan Fazekas, Business Development

http://makersqr.com
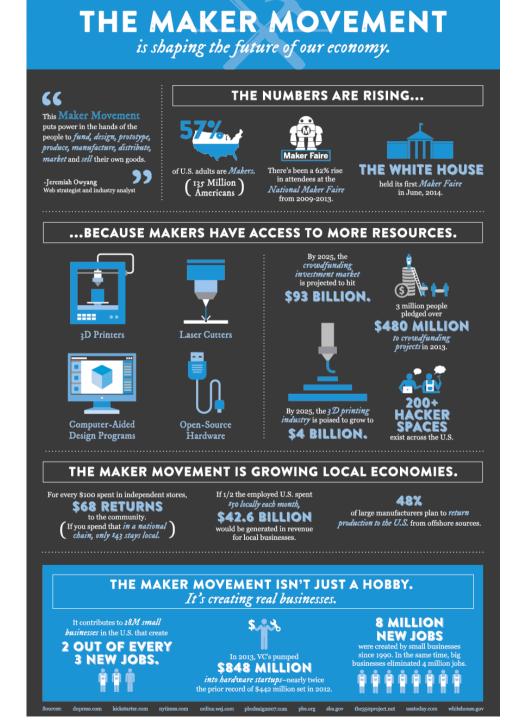
REAL CORP
Hamburg, June 2016

Maker Movement Numbers

- 135m US adults are 'makers' doing craft activities

- by 2017 50% of IoT solutions will be provided by startups no older than 3 years (gartner)

- maker fueled businesses pump $29bn into economy per year

- by 2017 3D printing market will hit $5.7bn (forbes)

- crowd funding: >$5bn total ever, $93bn by 2025 (world bank)

- Maker Faire: 131 events worldwide (2014), x10 visitors since 2009

- 550+ Fab Labs in 40 countries // Techshop expanding to Europe

- President Obama hosts Maker Faire White House (2014) & 'Week of Making' (2015)

More Facts

THE MAKER MOVEMENT
is shaping the future of our economy.

maker SQR

THE NUMBERS ARE RISING...

"This Maker Movement puts power in the hands of the people to *fund, design, prototype, produce, manufacture, distribute, market* and *sell* their own goods."

-Jeremiah Owyang
Web strategist and industry analyst

57%
of U.S. adults are *Makers*.
(135 Million Americans)

Maker Faire
There's been a 62% rise in attendees at the *National Maker Faire* from 2009-2013.

THE WHITE HOUSE
held its first *Maker Faire* in June, 2014.

...BECAUSE MAKERS HAVE ACCESS TO MORE RESOURCES.

3D Printers

Laser Cutters

Computer-Aided Design Programs

Open-Source Hardware

By 2025, the *crowdfunding investment market* is projected to hit **$93 BILLION.**

3 million people pledged over **$480 MILLION** to *crowdfunding projects* in 2013.

By 2025, the *3D printing industry* is poised to grow to **$4 BILLION.**

200+ HACKER SPACES exist across the U.S.

THE MAKER MOVEMENT IS GROWING LOCAL ECONOMIES.

For every $100 spent in independent stores, **$68 RETURNS** to the community. (If you spend that *in a national chain, only $43 stays local.*

If 1/2 the employed U.S. spent *$50 locally each month,* **$42.6 BILLION** would be generated in revenue for local businesses.

48% of large manufacturers plan to *return production to the U.S.* from offshore sources.

THE MAKER MOVEMENT ISN'T JUST A HOBBY.
It's creating real businesses.

It contributes to *28M small businesses* in the U.S. that create **2 OUT OF EVERY 3 NEW JOBS.**

In 2013, VC's pumped **$848 MILLION** *into hardware startups*–nearly twice the prior record of $442 million set in 2012.

8 MILLION NEW JOBS were created by small businesses since 1990. In the same time, big businesses eliminated 4 million jobs.

Sources: dupress.com   kickstarter.com   nytimes.com   online.wsj.com   pbcdesign007.com   pbs.org   sba.gov   the350project.net   usatoday.com   whitehouse.gov

makerSQR Prosumer
collaboration with the hidden gems

Market

- maker, do-it-yourself, open research communities

- private enthusiasts, tinkerers, inventors, hobbyists

- students // recovering academics

- unemployed people

- retired people, increasingly ageless and connected

- mooc customers // gain advantage from new skills

- non-mainstream sciences

Product

- freemium pricing model: Content is public (free) or private (paid)

- no geographical limits with matching and visibility

makerSQR Enterprise
adopt the spirit of the maker movement to the corporation

Market

- corporate innovation process optimization (tools & methods for ideation mostly don't care about succeeding processes like sourcing)

- enterprises seeking easy 'soft start' into open innovation

- enterprises seeking new way of sourcing beyond limits of vertical organizations and employee skill sets

- (open) science & research labs

- $1.6 trillion (2014) global r&d market

Product

- saas or on premise

- classify specific content as public or private, enables open innovation sourcing in any grade from internal use only to fully public

- matching service includes classified content

- on premise data security: no sensitive data outside company infrastructure

makerSQR Regional
make cities and regions even smarter

Market

- smart city / region initiatives & councils for local economy boost

- local communities

- governments // disaster recovery (fema) // cdc

- universities // schools

- all makerSQR prosumer audiences with significant local focus and desire for individual gui design

Product

- global scope, local focus

- optional limit for geographical availability

- individual gui design // selectable subdomain

- matching service includes content outside region

Personal Use

- access to projects previously out of scope

- do meaningful with time, tools & passion

- get individual education roadmap out of moocs, classes, hands-on

- no access barriers: trust on experience rather than certificates

- no topic barriers: no focus on mainstream natural sciences

- 'soft start' into maker movement // adjustable involvement

- enlarge public audience to demo achievements

Makerspaces

- provide added value for existing members

- attract new members // propose resources

- extend own & member's scope for resource acquisition

- improve utilization of tools & classes

- identify specialized local demand

- create new & more hackerspaces // identify best locations

Commercial Use

- access to crowd resources // identify talent

- 'soft start' into open innovation // selectively publish content

- open innovation resource management

- offer seasonally underutilized resources

- mixed internal use & crowd mode

- better resource evaluation based on track record // ratings
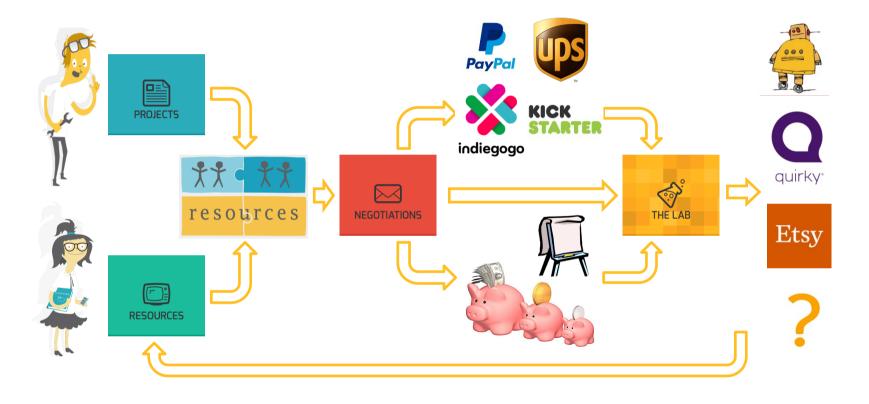
Education Providers

- propose matching & qualified education to users

- create individual education roadmaps for users

- attract corporations to create moocs for open innovation

- propose physical classes, workshops, hands-on training

- provide collaboration roadmap for completed classes

Business Process

Matching algorithm
more on learning algorithms

The Cortical Engine for Processing Text provides the system with language intelligence through three main building blocks:

- The Retina

- The Expression Engine permits to create Boolean expressions using words based on their meaning. For example, it allows to state the equation Jaguar - Porsche = Tiger. Operators are AND, OR, XOR, NOT, SUB.

- The Similarity Engine allows to compute the semantic distance between any two words.

- And additional modules like:

- Semantic Fingerprinting

- Disambiguation: decomposition of any word into its senses.

- Text: creation of document fingerprints, semantic document slicing and keyword extraction.

Matching algorithm
more on learning algorithms
What is a semantic fingerprint?

A human fingerprint is the biological identity card of a single person. There are no two identical fingerprints, which makes them an ideal identification criterion. A semantic fingerprint is the identity card of a single concept. It characterizes in a unique, descriptive way the meanings associated with that concept.

Pictures and audio recordings are traditional semantic representations that capture different dimensions (visual, audio) of the same concept. You'll see a picture of a jaguar or hear its growling and you'll immediately know that you are looking/listening to a feline. But what about the word "jaguar"? Without the help of the context, there is no way to know whether the text is about felines or cars.

Our Semantic Fingerprinting method enables the creation of a unique semantic fingerprint for any word, any document, and in the near future even for any entity that can be described with natural language. The big difference to conventional semantic systems is that the conversion of words into their semantic fingerprints through cortical.io's Retina is automated. There is no need for costly, time-consuming manual intervention anymore.
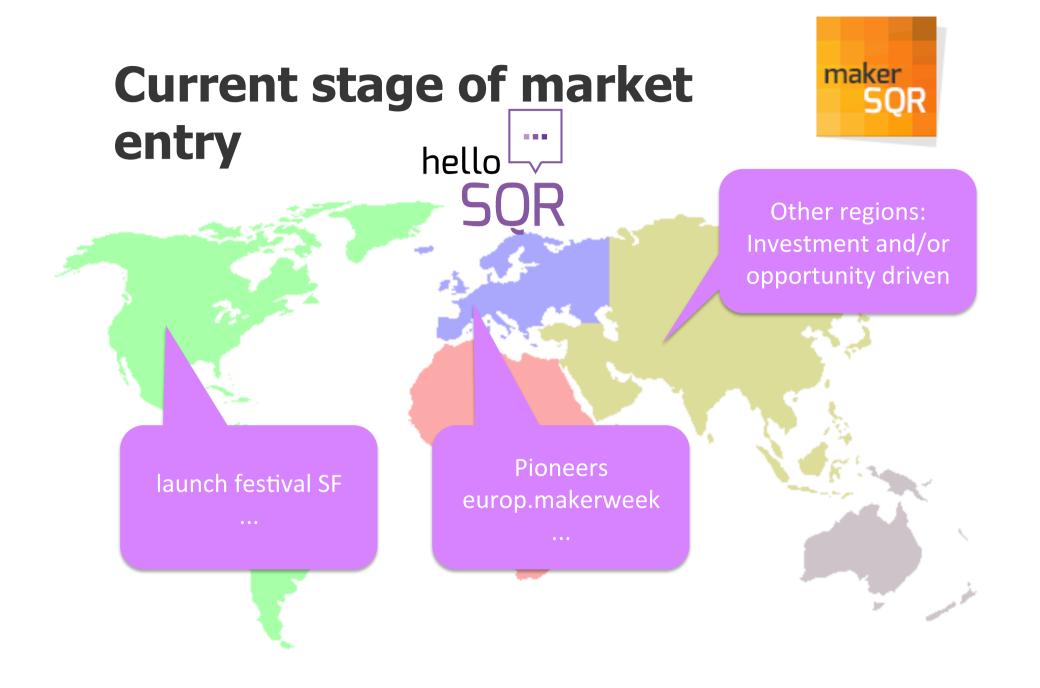
The invention of cortical.io's Retina could revolutionize the search and analysis of text-based information, not only because of its transparency and simplicity of use, but also because of its small footprint: huge amounts of text – structured and unstructured- can be processed with moderate computational power.
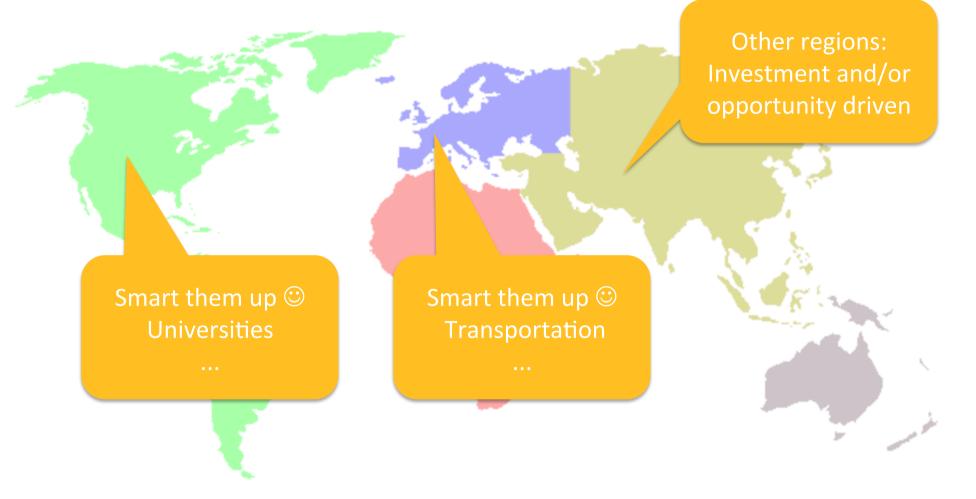
Smart Programs

Focus areas in Smart Cities

Candidate focus areas	Description of focus areas in a city (addressable by SC init.)
General Administration	Main office/agency, personnel, statistics, controlling, press, …
Finance	Treasury, tax, real estate, defense, …
Public Safety	Legislation/justice, insurance, fire brigade, police, …
Education	Schools, universities, life-long-learning / adult education
Health Care	Organizations/institutions/persons, facilities, rules and processes to improve and maintain health of population
Social Affairs	Service (documents, IDs, information etc.), labor affairs, immigration / integration, leisure time / culture
Colonization	Area development (regional/spatial planning for structured usage in terms of environmental, economical and social opportunities), housing, building supervision and maintenance, garden & parks
Technical Infrastructure	Innovation and asset management for demand oriented supply, buildings and BIM, parks, places, …
Energy and Water Management	Energy supply, alternative energy, quality of water, water supply, sewage
Traffic & Transportation	Individual traffic, public transport, data traffic
Environment Protection	Waste management, climate protection, sustainability, disaster management
Tourism	Development plan, investments, marketing
Internationalization	Support – outgoing, support – incoming, public relations, legislation
Business Development	Municipality strategy oriented actions to enable/support further improvement and innovation in related areas

Current stage of market entry

launch festival SF
...

Pioneers
europ.makerweek
...

Other regions:
Investment and/or
opportunity driven

'The reality is that most of the world's smartest people don't have the right credentials. They don't speak the right language. They didn't grow up in the right country. They didn't go to the right university. They don't know about you and you don't know about them. They're not available, and they already have a job.'

Chris Anderson, Author of 'Makers – The New Industrial Revolution'