

Greater Zurich Area Ltd.

A successful Public-Private-Partnership

Supported by more than 30 companies, 11 local governments and Switzerland's leading universities including ETH Zurich & University of Zurich.













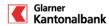


























































Alfred Niederberger, CEO, 41medical

Roles

- Current: CEO, 41medical
- Development Engineer for Mathys Medical
- Development Engineer, Product Manager and Tech Fellow for DePuy Synthes
- Worked in Switzerland, the USA and Austria, projects in China, Japan and Australia

Academia

- Certified Mechanic
- Engineering Degree Technical and Business (Dipl. Ing. FH)
- Doctor of Medical Science (Dr. sc. med.)

Email

alfred.niederberger@41medical.com



4medical

Taking ideas into the market

Support, facilitate or realize innovative MDD / MDR / FDA approved medical devices class I-III

For Startups, SME & international MedTech companies

Focused in the field of musculoskeletal disorders

Switzerland

41medical

- 1. Overview of Switzerlands Medtech
- 2. The Valley of Death
- 3. Services of 41medical
- 4. How to conquer the Valley of Death

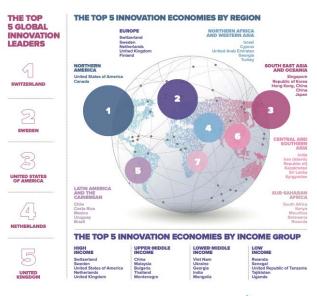
Switzerland



Innovation, education & know-how are Switzerland's resources

GLOBAL LEADERS IN INNOVATION 2019

Every year, the Global Innovation Index ranks the innovation performance of nearly 130 economies around the world.

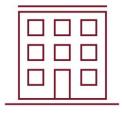








Switzerland showcases a strong medtech industry (Swiss Medtech 2020)



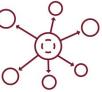
1'400 companies



63'000 employees



19.52 Billion \$ Turnover



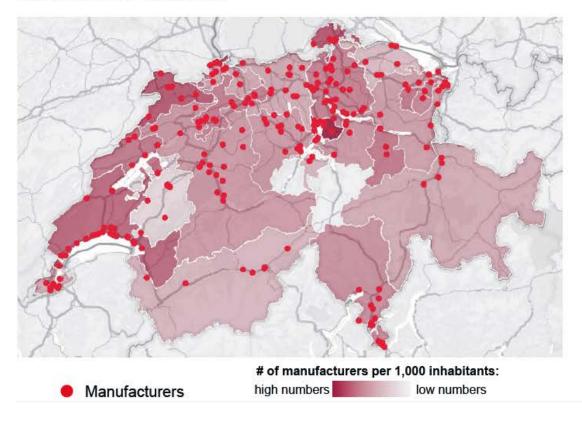
13.09 Billion \$ Export

Medical Devices, a long and successful history

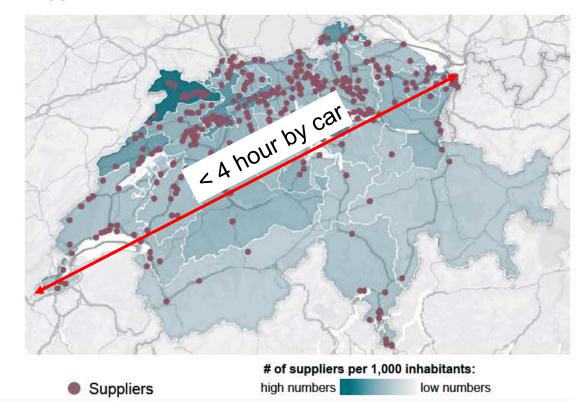


The huge and very broad expertise in medical devices makes Switzerland a hot spot and one-stop-shop for the MedTech industry

Manufacturer locations



Supplier locations

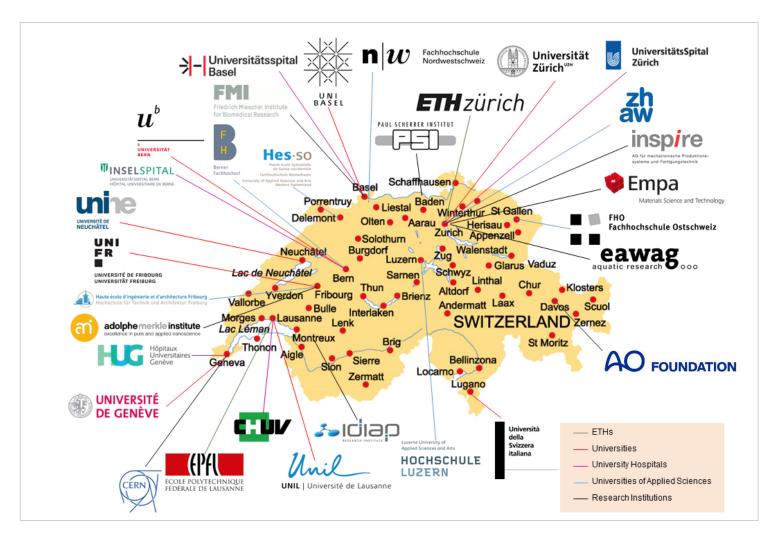


Universities, Univ. Hospitals, Univ. of Applied Science, Research institutions



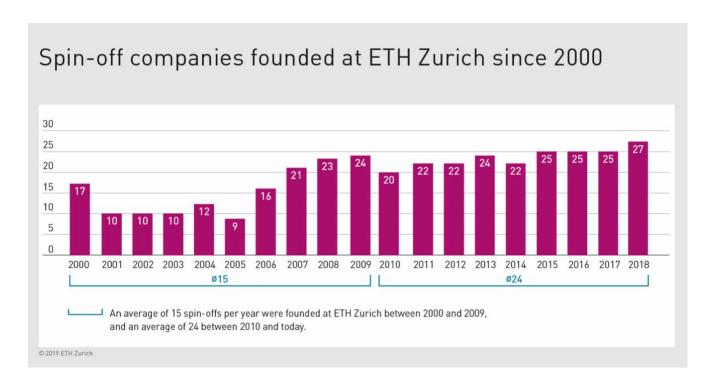


An interdisciplinary network of brains and institutions



Switzerland is very active in creating and supporting Startups













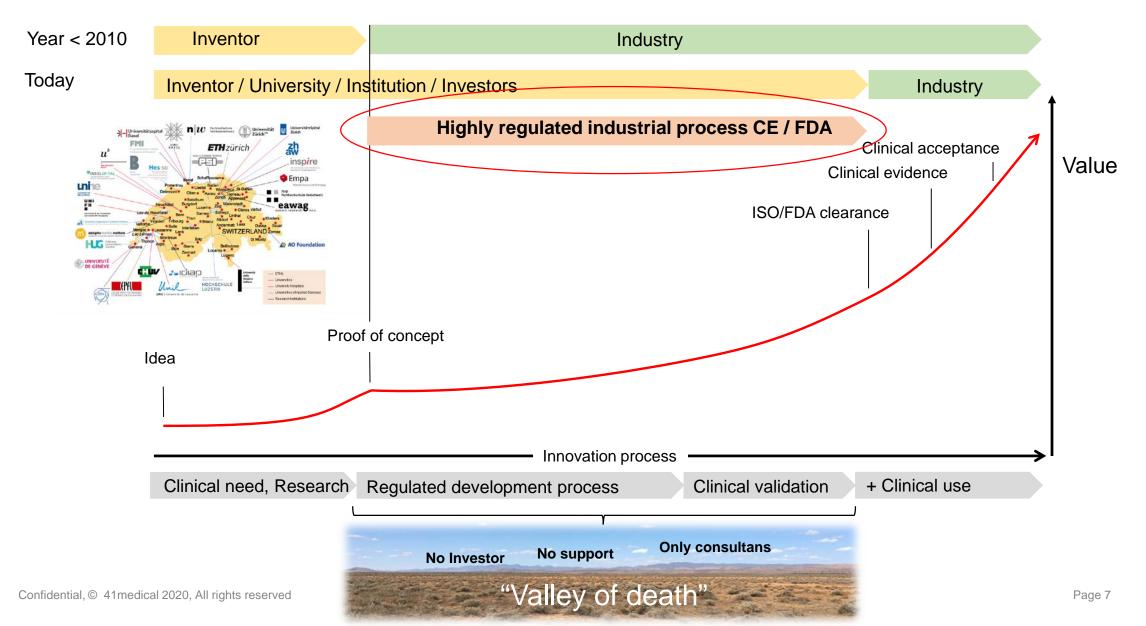


Many startups are in the area of Medical Devices

Increased regulation leads to the industrialization of innovation process of medical devices

Ownership & value creation during the Innovation process





The pillers of 41medical

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Product Development

Proprietary and contract development from clinical need to approved products



Licensing

Licensing of different proprietary developments



Manufacturing & Additive Manufacturing

Prototyping and ISO 13485 contract manufacturing



Incubator

Mentoring for R&D, project management and quality system

Our customers when it comes to product development



Orthopedic Start-Up

Location: Australia Founded: 2019

Employees: 2

Turnover: not disclosed

Collab. since: 2019

Services provided:

- Complete development of an novel orthopedic plate
- Development of supply chain
- 41m acts as Legal Manufacturer including all obligations

We work for the very small ones! Because we know how to develop and manufacture a medical product in full compliance with all regulatory requirements.

Endoscopes and electronics

Location: Germany

Founded: 1945 Employees: 8000 Turnover: 1.75 B€ Collab. since: 2016

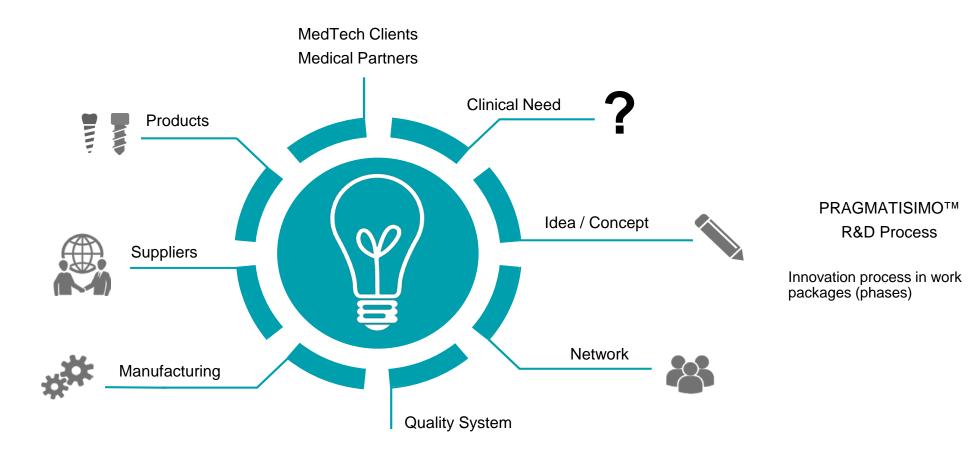
Services provided:

- Development of Sports Medicine Implants and associated instruments
- Development of supply chain
- 41m acts as Legal Manufacturer including all obligations

We work for the very big ones! Because they know we vast experience in product development combined with efficient and safe processes to get the product faster to the market.

An industrial partner to bring ideas to CE / FDA approved products





A certified legal manufacturer of medical devices class I-III 41medical





754

Morven

MedTech Device

The role of 41medical

Driving a project thought the vally of death

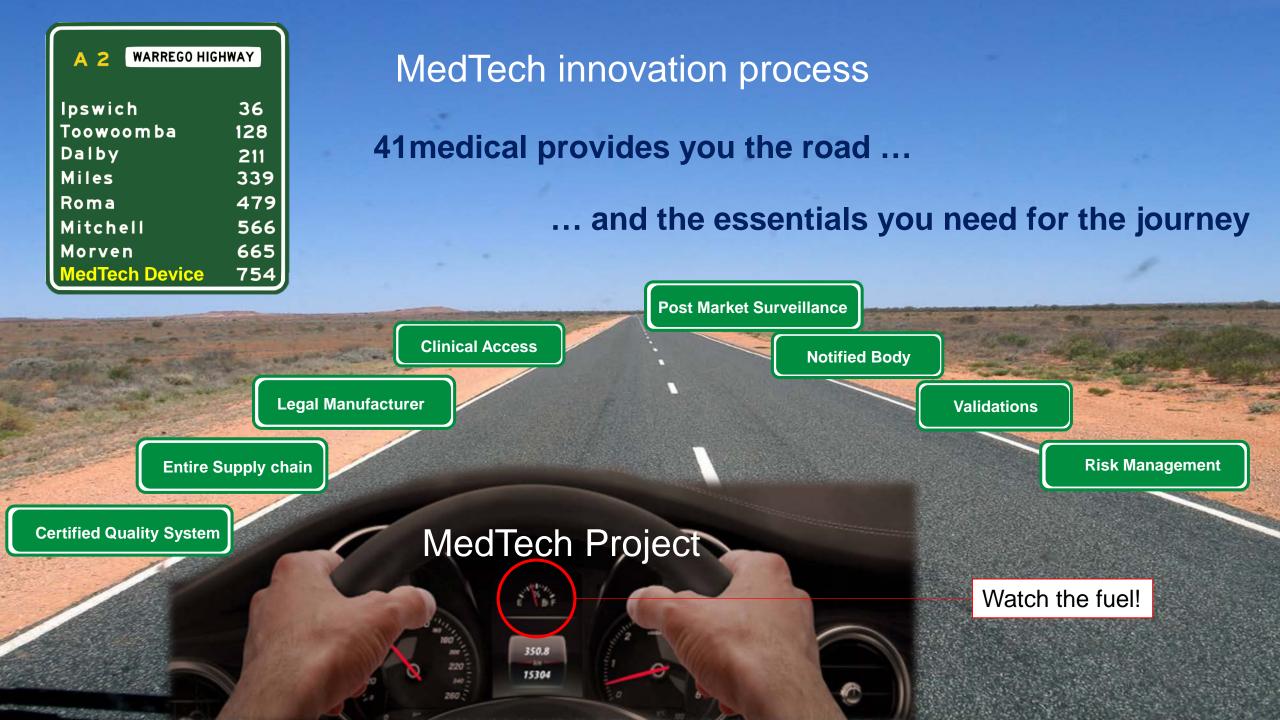


A 2 WARREGO HIGHWAY

Ipswich 36 Toowoomba 128 Dalby 211 Miles 339 479 Roma Mitchell 566 665 Morven **MedTech Device** 754 MedTech innovation process

41medical provides you the road ...







350.8 15304





41medical projects and development partners of the six







UriControl® is expected to significantly improve existing treatment due to its remote control functionality.







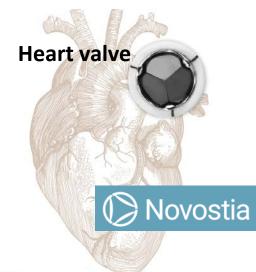


Highlighted projects

Pushing the boundaries of implantable neuro-device development

4Ihemiverse™ glenoid preserving solution





Wyss Center





Sport Medicine







Dental

Our supplier, MedTech industry, research and clinical network

4medical

41medical has contracts with over 60 qualified MedTech supplier









Our subsidiary and technology partner





From the idea to an ISO certified product:

61medical acts as a developer, producer and legal manufacturer of CE approved or FDA cleared medical devices class I-III

- For the MedTech industry
- For inventors
- For Startups



Same location as 41medical

ISO conform technology center: from the design, to an implantable medical device (Ti, Stainless Steel)



Thank you for your attention

4medical



Nicolas Bouduban, CEO, Swiss m4m Center

Roles

- Current: CEO, Swiss m4m Center
- Current: Head of Marketing at 41medical
- Development Engineer at Synthes and DePuy Synthes (J&J)

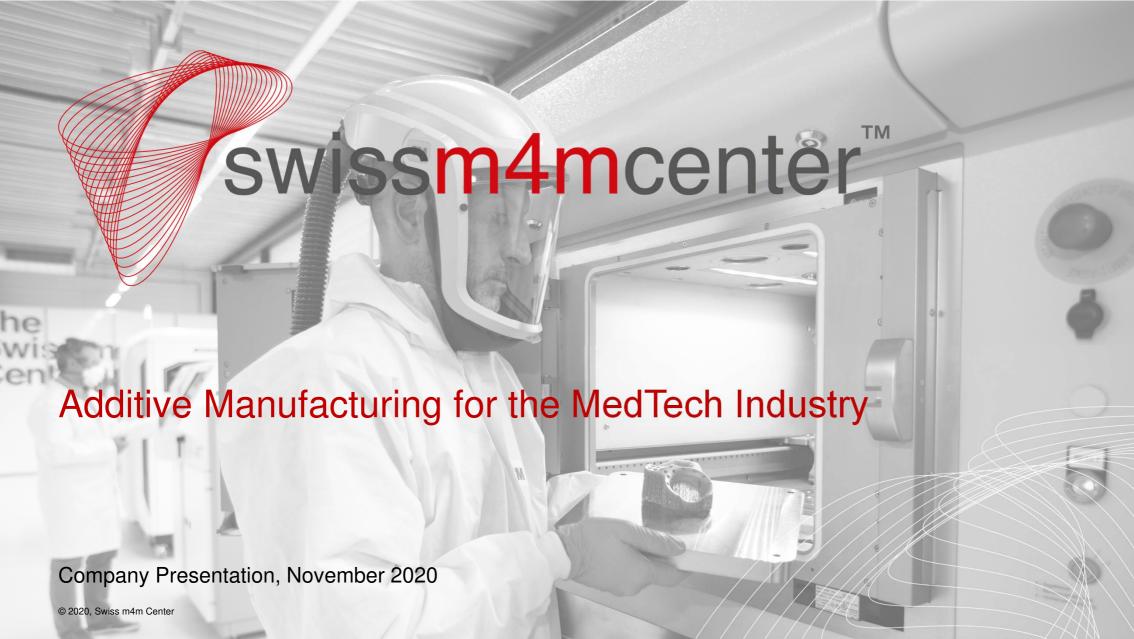
Academia

- Bachelor in Micro and Medical Technology
- M.Sc. in Biomedical Engineering from the University of Berne
- Executive MBA, EPFL

Email

nicolas.bouduban@41medical.com





Additive Manufacturing is a Golden Egg



We will digitalize everything

We will be more efficient

We will be better

We will be faster

It is a new industrial revolution

We will enter new markets

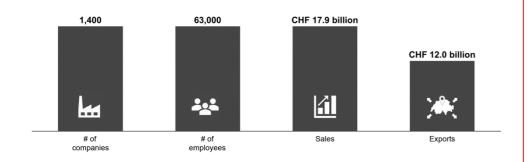
We will produce everything...
...including organs...



The Swiss MedTech Industry



Key Figures



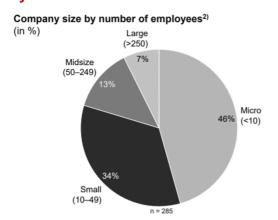
Top Trends and potential threats

Manufacturing method

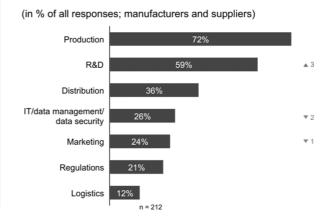
	Manufacturing processes	Industry 4.0, digitalisation of industrial production, automation and robotisation, etc
2	Substitution technology	3D printing, dematerialisation, digitalisation, miniaturisation, batch size 1, etc.

Over 20% of manufacturers also consider top trends as possible entry points for new competitors!

Industry Ecosystem



Planed Investment by area



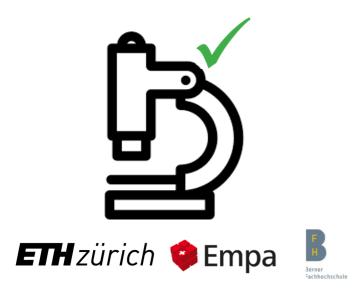
The MedTech AM Situation in Switzerland

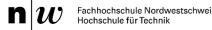


A visible gap between research and the industry.

Research Institutions

New materials, processes monitoring, AI, ...







Multinational Companies

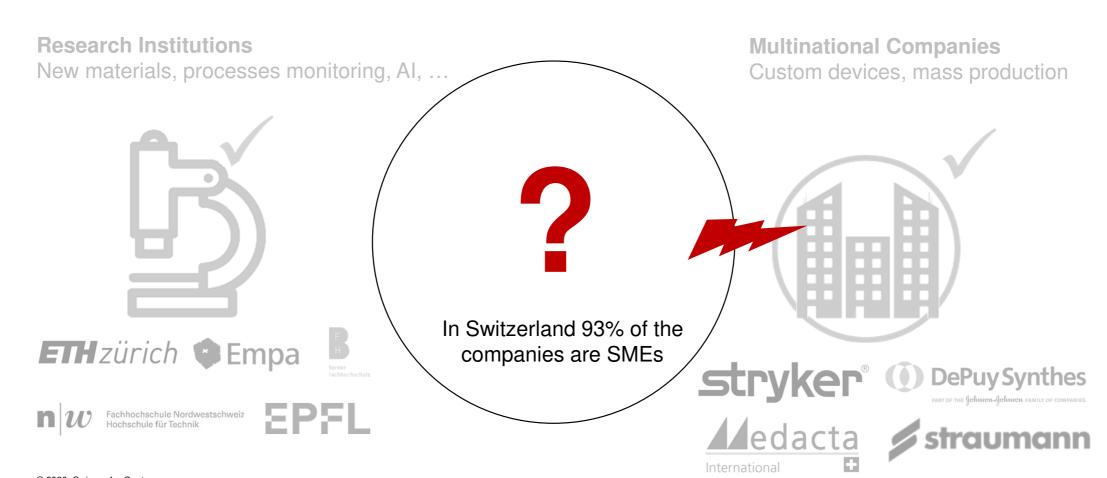
Custom devices, mass production



The MedTech AM Situation in Switzerland



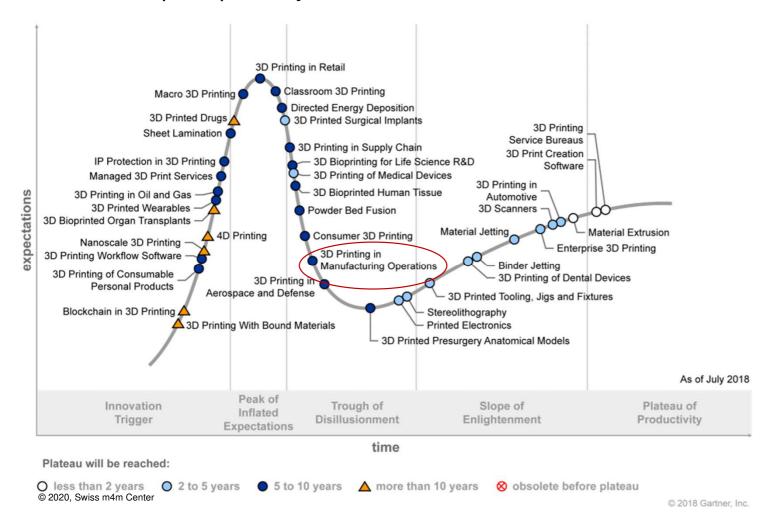
A visible gap between research and the industry.



Gartner Hype Cycle for 3D Printing, 2018



The AM adoption pathway



Swiss m4m Center

Additive manufacturing for the MedTech industry

Vision: Facilitate the adoption of additive manufacturing in the MedTech industry

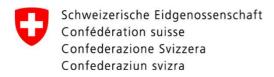
Mission: Change the way we think and operate



Swiss m4m Center Creation



A successful application process







Action plan for digitalization in the ERI (Education, Research, Innovation) sector

Federal Act on the Promotion of Research and Innovation (RIPA), Art. 15 (Contributions to research facilities of national importance)



Evaluation criteria

- Relevance for the Industry (cutting edge technology)
- Committed and strong partners (collectivity support)
- Non-profit AG: No dividends and reinvested revenues
- Public-Private Partnership (Research & Industry)



Dedicated to patient care



Clinical

Solution



Clinical Need



Quality Assurance

Validated

Disruptive **Product**



Clinical Focus



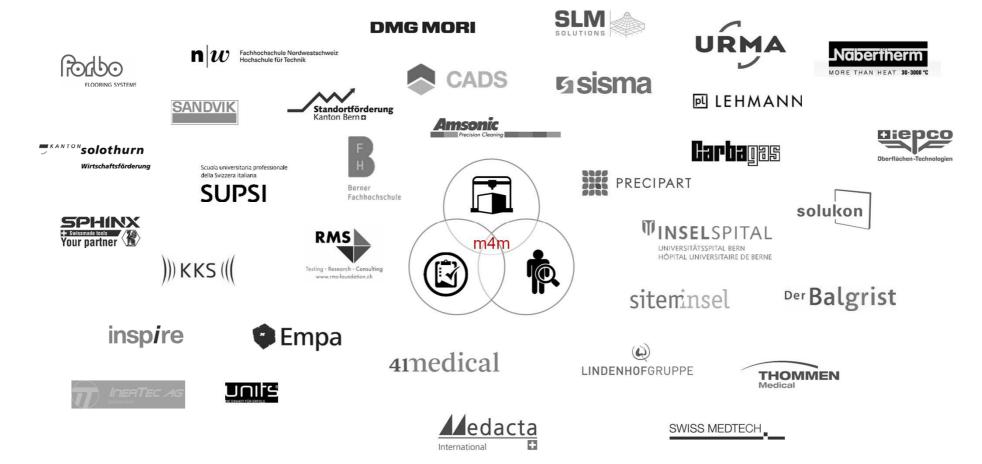


Patient

Partnership

Supported by a strong partner ecosystem

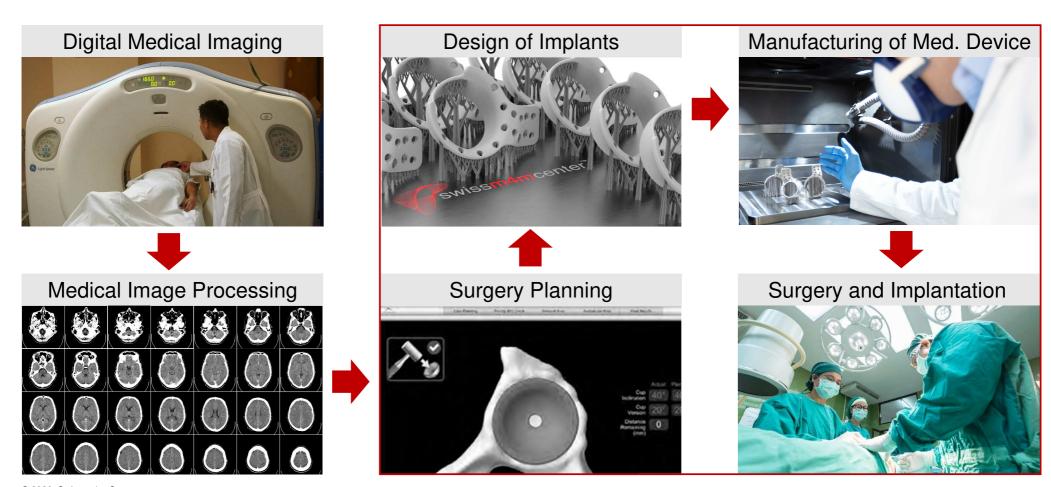




Digitalization



Part of the medical device digitalization process by focusing on additive manufacturing



Infrastructure

Best in class infrastructure

ISO 13485

Powder Management

Additive Manufacturing (Powder Bed)

P Heat Treatment

Post Processing

W Surface Treatment

O Cleaning & Sterilization



The m4m Five Aims

Develop core competencies in Additive Manufacturing





Develop an integrated efficient and reliable process chain



Operate on a new pilot manufacturing line



Proof technology readiness for the market



Support the technology transfer into industrial applications



Train additive manufacturing users

Services



We offer four different types of services to address different customers needs



Use of a pilot manufacturing line of prototypes, series or patient-specific medical devices



Development collaborations support by providing necessary infrastructure and know-how



Consulting services for Medtech companies, suppliers and healthcare professionals



Training programs for students and professionals to learn about advanced technologies

Meet the Swiss m4m Center People

















Thomas Wahl Chairman

Prof. Dr. Pierangelo Gröning Prof. Dr. Robert Frigg Prof. Dr. Emanuele Carpanzano Board member

Board member

Board member

Andreas Wenger Board member

Board member

Dr. Raphael Laubscher **Board member**

Founder of TWC Medical Former VP Operations Stryker

Member of Board of Directors **Empa**

Chairman at 41 medical Former CTO Synthes

Director of the Department of Innovative Technologies **SUPSI**

General Manager Precipart

Head of R&D Berner Fachhochschule

Peter Brunner

CEO Laubscher Präzision AG



Nicolas Bouduban CEO



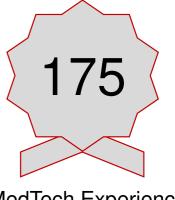
Daniel Frigg Ass. Project Manager



Patrick Stämpfli Technician



Alexander Hatt QA / Project Manager



MedTech Experience

Take Home Message



1) At the beginning, Additive Manufacturing in NOT a golden Egg but more a jungle.

2) Know-how is the KEY...

3) There is a need for an enabling infrastructure to implement Additive Manufacturing.



Dean Zikria, CEO, Mind Machine LLC

Roles

- CEO, Mind Machine LLC & DZ Advisors
- Formerly CEO, Spirosure (formerly Spirometrix)
- J&J: Head of Global Marketing
- Pfizer: Head of Strategy & Innovation
- McKesson: VP Strategy & Business Development

Academia

- B.S., Biology, Rutgers University
- MBA, Rutgers University

Email

dean.zikria@mindmachineco.com



mind machine

VIEWPOINT

GZA Webinar: MedTech

NOVEMBER 19, 2020

Agenda

- Dean Zikria: Background
- Company
- Zurich / GZA History
- Thoughts on MedTech
- Q&A



Background



Background

Education

- BS Biology: Rutgers University (New Jersey)
- MBA: Rutgers University (New Jersey)

Work Experience

- Columbia University: College of Physicians & Surgeons
- Accenture (pharmaceutical & medical products practice)
- · Biophyzica (biopharmaceutical startup)
- Deloitte Consulting (Braxton Associates Healthcare Strategy Practice)
- McKesson (VP of Software Strategy & Business Development)
- Pfizer: Head of Cardiovascular Marketing & Sales Org, Strategy & BusDev)
- Johnson & Johnson (Medical Devices, Diabetes)
- Spirometrix/Spirosure (Silicon Valley VC backed Startup)
- DZ Advisors
- Mind Machine LLC

Professional Achievements/Groups

- 5 patents (inventor or co-inventor)
- Band of CEOs (Silicon Valley MedTech CEO Peer Group, 50 members)
- Alliance of CEOs (San Francisco CEO Peer Group, 300 members)





Company



Company Information/Details

Vitals

Location: Silicon Valley

• People: 27

Offerings

- Launch planning and execution
- Startup pitch decks, financials
- Branding
- Digital Marketing (SEO/SEM)
- Go To Mkt Strategy
- Market Research/Analytics
- Photography/Video/Story Boarding/etc.
- Public Relations (Crisis Management
- Graphic Design
- Websites
- KOL Management
- Compliance

Current Status

• Focused on a Client's diabetes device launch in U.S.



Zurich / GZA



Zurich Connection

J&J

- · European Medical Device HQ in Zug
- 7 People Reporting there with responsibility across Europe

Spirometrix / Spirosure

- Worked closely with GZA to put European HQ in Zurich area
- Took office in ETH incubator
- · Launched first product in Switzerland

Current / Future

- Recommending Zurich as potential European HQ for U.S. MedTech companies (when appropriate/helpful)
- Helping Zurich area companies make inroads into U.S. markets



A MedTech CEO Needs To Do Three Things....

1. Raise Capital

2. Bring a Product to Market

3. Build a Team

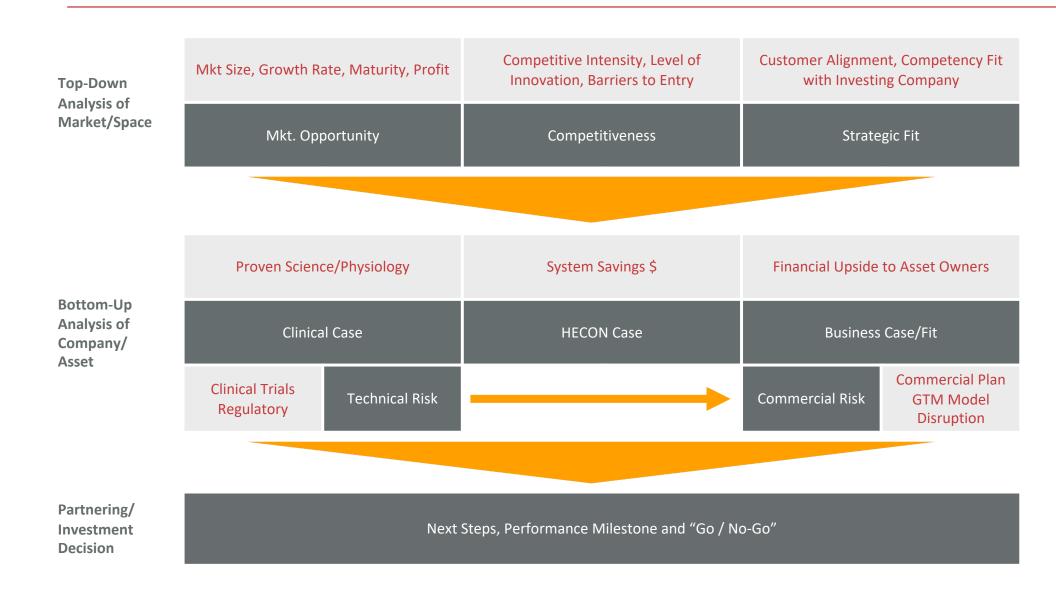
Zurich's MedTech Ecosystem Facilitates These Goals



Thoughts on MedTech



The MedTech Investment Analysis Framework















Diagnosing the problem / pain

What are you selling?

Services?

Technical Expertise?

A disruptive medical device??

A medical device at the lowest possible cost?

A medical device design history file?

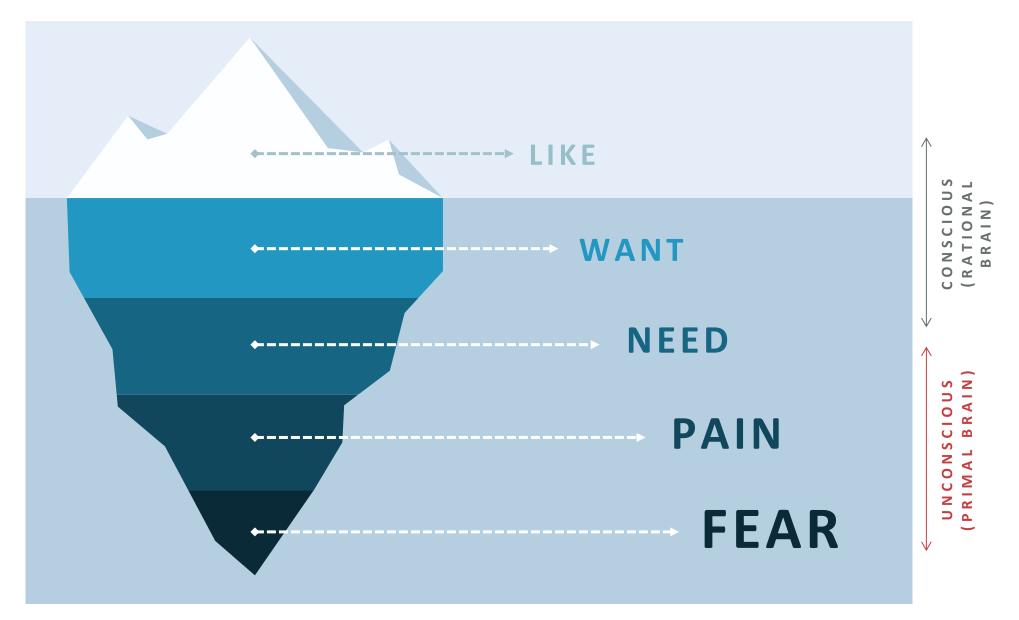
A potential regulatory approval?

Something else?



What Drives Customers' Decisions?

Decision drivers run deep...



After Diagnosing the Pain / Fear

Differentiate you claims

Demonstrate the gain

Delivery to the primal brain



Remnants of the Primal Brain: Four Common Cognitive Biases



anchoring

The first thing you judge influences your judgment of all that follows.

Human minds are associative in nature, so the order in which we receive information helps determine the course of our judgments and perceptions.

Be especially mindful of this bias during financial negotiations such as houses, cars, and salaries. The initial price offered is proven to have a significant effect.



sunk cost fallacy

You irrationally cling to things that have already cost you something.

When we've invested our time, money, or emotion into something, it hurts us to let it go. This aversion to pain can distort our better judgment and cause us to make unwise investments.

To regain objectivity, ask yourself: had I not already invested something, would I still do so now? What would I counsel a friend to do if they were in the same situation?



confirmation

You look for ways to justify your existing beliefs.

We are primed to see and agree with ideas that fit our preconceptions, and to ignore and dismiss information that conflicts with them.

Think of your ideas and beliefs as software you're actively trying to find problems with rather than things to be defended.

"The first principle is that you must not fool yourself - and you are the easiest person to fool."

- Richard Feynman



dunning-kruger effect

The more you know, the less confident you're likely to be.

Because experts know just how much they don't know, they tend to underestimate their ability; but it's easy to be over-confident when you have only a simple idea of how things are.

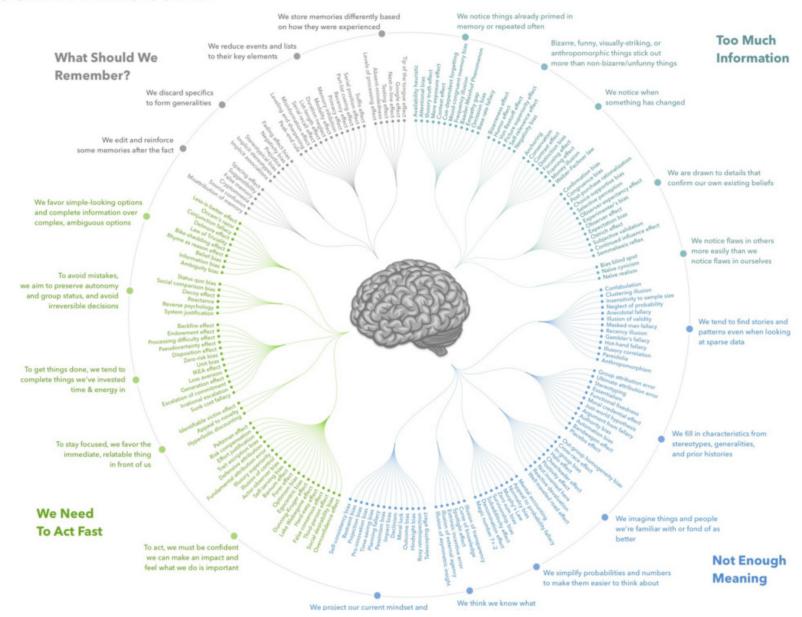
"The whole problem with the world is that fools and fanatics are so certain of themselves, yet wiser people so full of doubts."

Bertrand Russell



Human Cognitive Bias Codex

COGNITIVE BIAS CODEX



Is There a Way to Address the Most Primal Fear of a MedTech CEO

What is that primal fear?

Failure – to commercialize a viable Medical Device

How can this fear be addressed?









Where worldclass technology meets Swiss reliability.

Have we left one of your questions unanswered?
Give us a call or send us a message and we'll be in touch shortly.

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