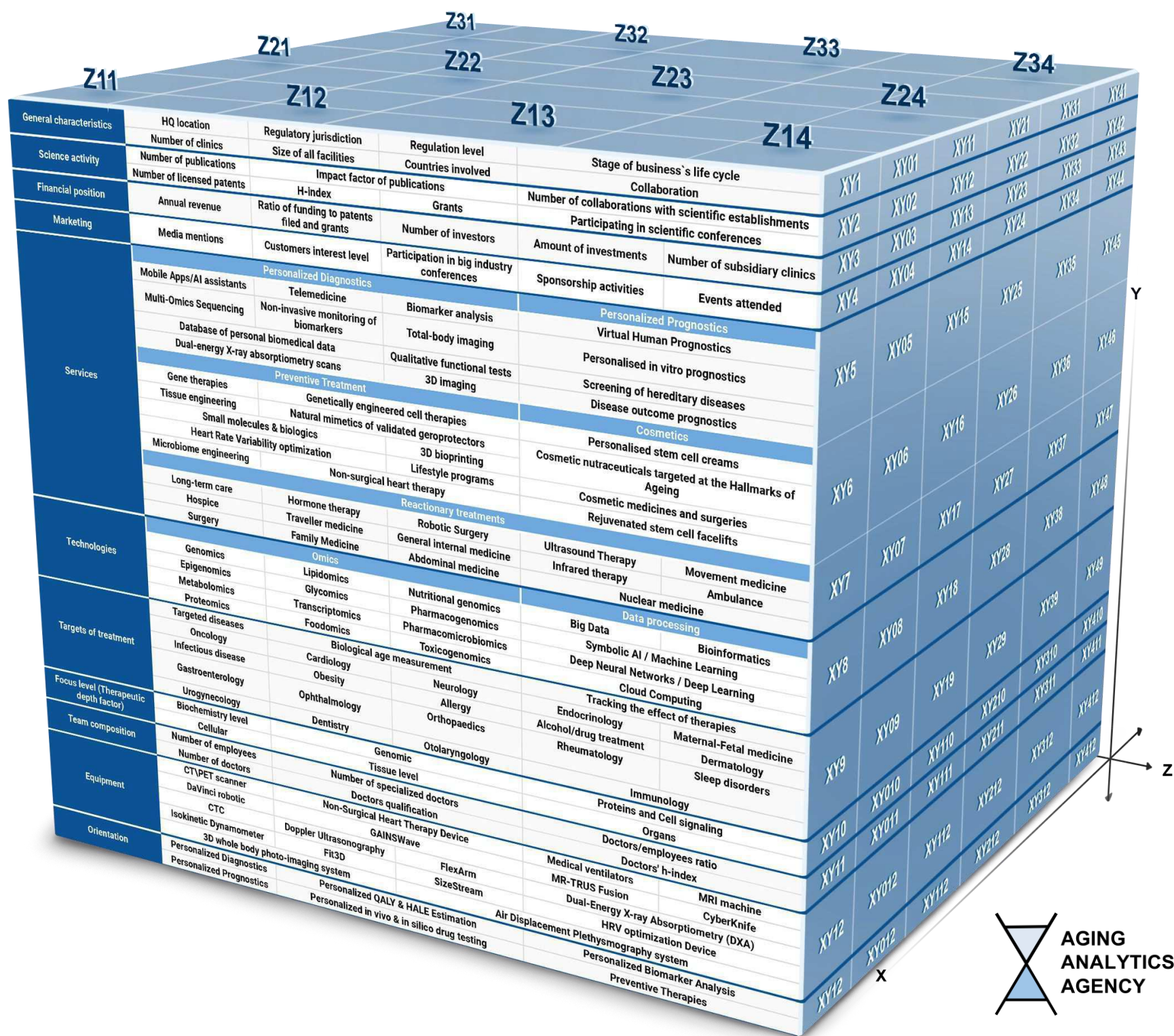# Precision Medicine Clinics 3D Analytical Framework

Aging Analytics Agency believes that the effective analysis of as complex and multidimensional an industry as Precision Medicine Clinics requires the application of an equally multidimensional analytical framework. This analytical framework presented in the present white paper includes metrics for identifying the breadth of the industry, identifying the degree of technological development, staff professionalism, range of provided services, financial position and scientific activity.

Precision Medicine Clinics Industry Analytical Framework

Main Framework

General characteristics	Financial position	Marketing	Technologies	Services	Orientation	Focus level (Therapeutic depth factor)	Team composition	Science activity	Equipment		Targets of treatment	
											Targeted diseases	Alcohol/drug treatment
											Biological age measurement	Dermatology
									CT\PET scanner	CTC	Tracking the effect of therapies	Gastroenterology
									Non-Surgical Heart Therapy Device	Doppler Ultrasonography	Oncology	Ophthalmology
HQ location								Number of publications	Medical ventilators	FlexArm	Cardiology	Orthopaedics
Regulatory jurisdiction					Personalized Diagnostics	Biochemistry level	Number of employees	Impact factor of publications	MRI machine	Isokinetic Dynamometer	Neurology	Rheumatology
Regulation level				Personalized Prognostics	Personalized QALY & HALE Estimation	Genomic	Number of doctors	Number of licensed patents	DaVinci robotic	Dual-Energy X-ray Absorptiometry (DXA)	Endocrinology	Sleep disorders
Countries involved	Annual revenue	Media mentions		Personalized Diagnostics	Personalized Biomarker Analysis	Proteins and Cell signaling	Number of specialized doctors	Number of collaborations with scientific establishments	GAINSWave	Fit3D	Maternal-Fetal medicine	Urogynecology
Number of clinics	Ratio of funding to patents filed and grants	Customers interest level		Preventive Treatment	Personalized Prognostics	Cellular	Doctors/employees ratio	H-index	HRV optimization Device	SizeStream	Infectious disease	Dentistry
Size of all facilities	Number of investors	Participation in big industry conferences	Data processing	Reactionary treatments	Personalized in vivo & in silico drug testing	Tissue level	Doctors qualification	Grants	MR-TRUS Fusion	Air Displacement Plethysmography system	Obesity	Otolaryngology
Stage of business`s life cycle	Amount of investments	Sponsorship activities	Omics	Cosmetics	Preventive Therapies	Organs	Doctors' h-index	Participating in scientific conferences	CyberKnife	3D wholebody photo-imaging system	Allergy	Immunology
Collaboration	Number of subsidiary clinics	Events attended										

Services

Reactionary treatments	Nuclear medicine	Infrared therapy	Ultrasound Therapy	Movement medicine	Abdominal medicine	General internal medicine	Robotic Surgery
	Ambulance	Family Medicine	Traveller medicine	Hormone therapy	Surgery	Hospice	Long-term care

Preventive Treatment	Microbiome engineering	Lifestyle programs	Non-surgical heart therapy	Heart Rate Variability optimization	3D bioprinting	Natural mimetics of validated geroprotectors
	Small molecules & biologics	Tissue engineering	Genetically engineered cell therapies	Cell therapies	Gene therapies	

Personalized Diagnostics	3D imaging	Dual-energy X-ray absorptiometry scans	Total-body imaging	Non-invasive monitoring of biomarkers	Multi-Omics Sequencing
	Qualitative functional tests	Database of personal biomedical data	Biomarker analysis	Telemedicine	Mobile Apps/AI assistants

Cosmetics	Rejuvenated stem cell facelifts	Cosmetic medicines and surgeries	Cosmetic nutraceuticals targeted at the Hallmarks of Ageing	Personalised stem cell creams

Personalized Prognostics	Disease outcome prognostics	Screening of hereditary diseases	Personalised in vitro prognostics	Virtual Human Prognostics

TECHNOLOGIES

Omics	Toxicogenomics	Pharmacomicrobiomics	Pharmacogenomics	Nutritional genomics	Foodomics
	Transcriptomics	Glycomics	Lipidomics	Proteomics	Metabolomics

Data processing	Bioinformatics	Cloud Computing	Deep Neural Networks /Deep Learning	Symbolic AI/ Machine Learning	Big Data

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Precision Medicine Clinics Industry Analytical Framework

General characteristics	HQ location	Regulatory jurisdiction	Regulation level	Stage of business`s lifecycle	
	Number of clinics	Size of all facilities	Countries involved	Collaboration	

Science activity	Number of publications	Impact factor of publications		Number of collaborations with scientific establishments	
	Number of licensed patents	H-index	Grants	Participating in scientific conferences	

Financial position	Annual revenue	Ratio of funding to patents filed and grants	Number of investors	Amount of investments	Number of subsidiary clinics

Marketing	Media mentions	Customers interest level	Participation in big industry conferences	Sponsorship activities	Events attended

Services

Personalized Diagnostics / Personalized Prognostics

	Personalized Diagnostics			Personalized Prognostics	
	Mobile Apps/AI assistants	Telemedicine	Biomarker analysis	Virtual Human Prognostics	
	Multi-Omics Sequencing	Non-invasive monitoring of biomarkers	Total-body imaging	Personalised in vitro prognostics	
	Database of personal biomedical data		Qualitative functional tests	Screening of hereditary diseases	
	Dual-energy X-ray absorptiometry scans		3D imaging	Disease outcome prognostics	

Preventive Treatment / Cosmetics

	Preventive Treatment			Cosmetics	
	Gene therapies	Genetically engineered cell therapies		Personalised stem cell creams	
	Tissue engineering	Natural mimetics of validated geroprotectors		Cosmetic nutraceuticals targeted at the Hallmarks of Ageing	
	Small molecules & biologics		3D bioprinting		
	Heart Rate Variability optimization		Lifestyle programs	Cosmetic medicines and surgeries	
	Microbiome engineering		Non-surgical heart therapy	Rejuvenated stem cell facelifts	

Reactionary treatments

	Long-term care	Hormone therapy	Robotic Surgery	Ultrasound Therapy	Movement medicine
	Hospice	Traveller medicine	General internal medicine	Infrared therapy	Ambulance
	Surgery	Family Medicine	Abdominal medicine	Nuclear medicine	

Technologies

Omics / Data processing

	Omics			Data processing	
	Genomics	Lipidomics	Nutritional genomics	Big Data	Bioinformatics
	Epigenomics	Glycomics	Pharmacogenomics	Symbolic AI / Machine Learning	
	Metabolomics	Transcriptomics	Pharmacomicrobiomics	Deep Neural Networks / Deep Learning	
	Proteomics	Foodomics	Toxicogenomics	Cloud Computing	

Targets of treatment

	Targeted diseases	Biological age measurement		Tracking the effect of therapies	
	Oncology	Cardiology	Neurology	Endocrinology	Maternal-Fetal medicine
	Infectious disease	Obesity	Allergy	Alcohol/drug treatment	Dermatology
	Gastroenterology	Ophthalmology	Orthopaedics	Rheumatology	Sleep disorders
	Urogynecology	Dentistry	Otolaryngology	Immunology	

Focus level (Therapeutic depth factor)

	Biochemistry level	Genomic		Proteins and Cell signaling	
	Cellular	Tissue level		Organs	

Team composition

	Number of employees	Number of specialized doctors		Doctors/employees ratio	
	Number of doctors	Doctors qualification		Doctors' h-index	

Equipment

	CT\PET scanner	Non-Surgical Heart Therapy Device		Medical ventilators	MRI machine
	DaVinci robotic	GAINSWave		MR-TRUS Fusion	CyberKnife
	CTC	Doppler Ultrasonography	FlexArm	Dual-Energy X-ray Absorptiometry (DXA)	
	Isokinetic Dynamometer	Fit3D	SizeStream	HRV optimization Device	
	3D whole body photo-imaging system		Air Displacement Plethysmography system		

Orientation

	Personalized Diagnostics	Personalized QALY & HALE Estimation		Personalized Biomarker Analysis	
	Personalized Prognostics	Personalized in vivo & in silico drugtesting		Preventive Therapies	

Precision Medicine Clinics Industry Analytical Framework
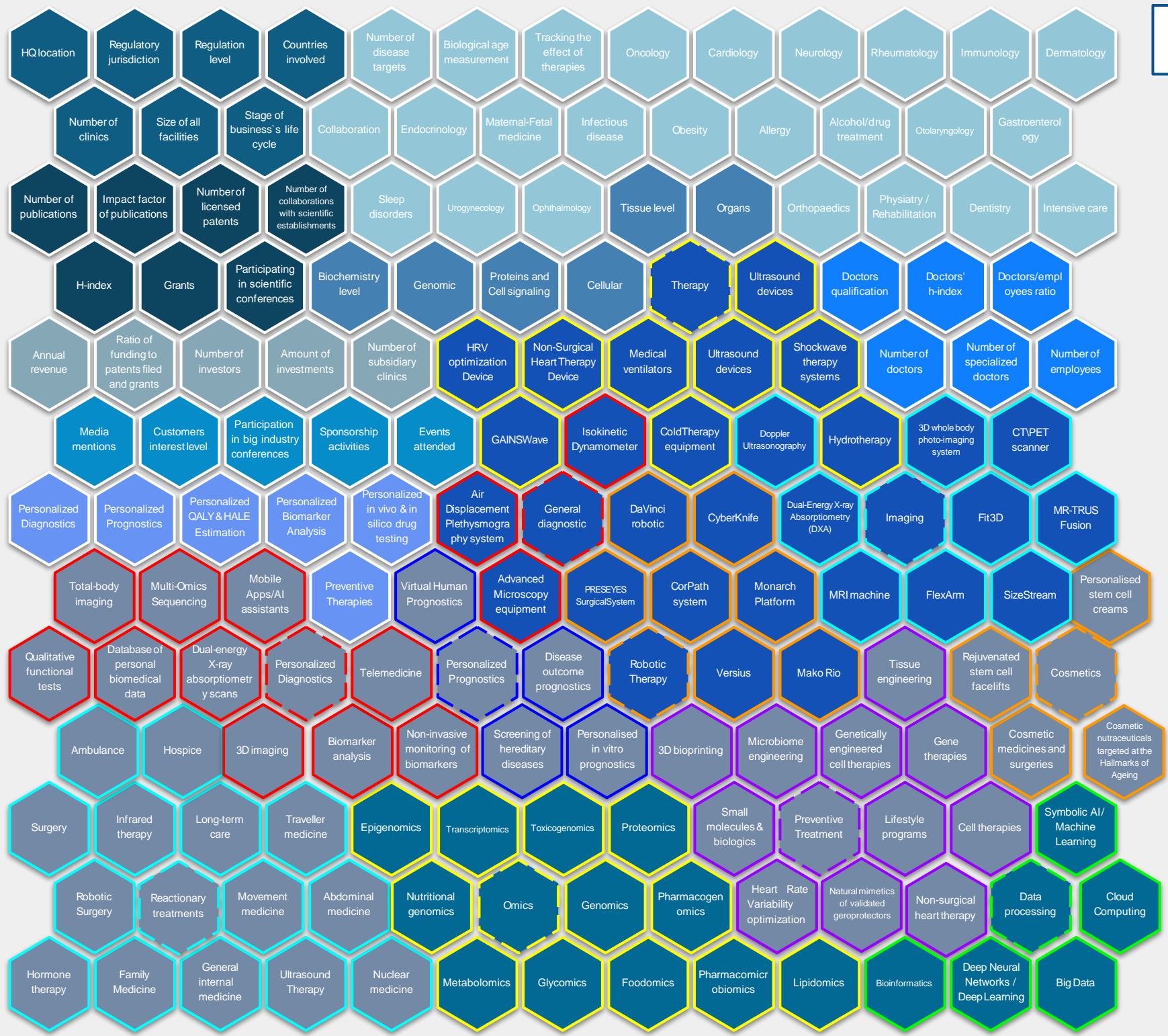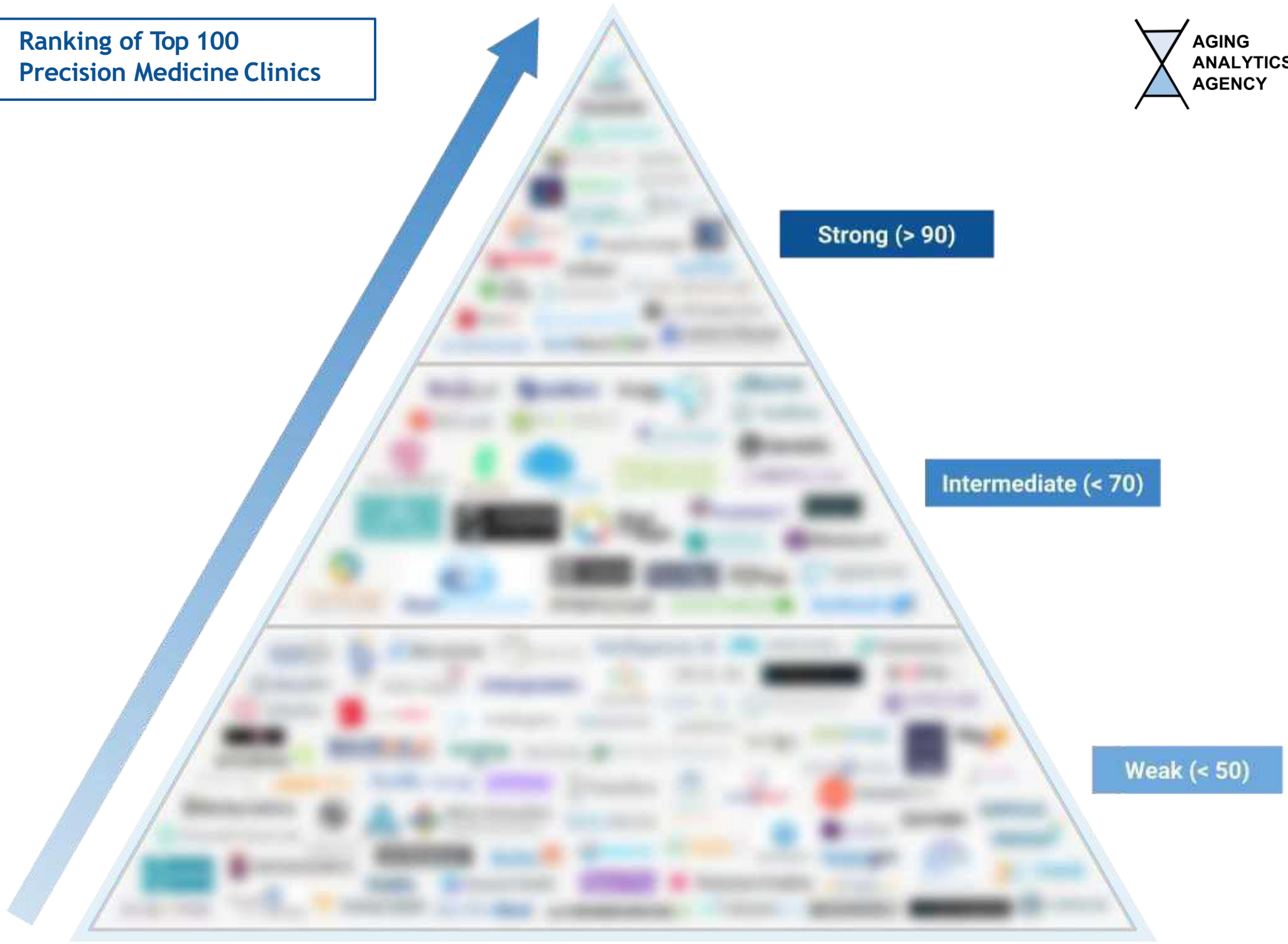
General characteristics				
HQ location	Regulatory jurisdiction	Regulation level	Stage of business`s lifecycle	
Number of clinics	Size of all facilities	Countries involved	Collaboration	

Science activity			
Number of publications	Impact factor of publications		Number of collaborations with scientific establishments
Number of licensed patents	H-index	Grants	Participating in scientific conferences

Financial position				
Annual revenue	Ratio of funding to patents filed and grants	Number of investors	Amount of investments	Number of subsidiary clinics

Marketing				
Media mentions	Customers interest level	Participation in big industry conferences	Sponsorship activities	Events attended

Services	
Personalized Diagnostics	Personalized Prognostics
Preventive Treatment	Cosmetics
Reactionary treatments	

Technologies	
Omics	Data processing

Targets of treatment				
Targeted diseases	Biological age measurement		Tracking the effect of therapies	
Oncology	Cardiology	Neurology	Endocrinology	Maternal-Fetal medicine
Infectious disease	Obesity	Allergy	Alcohol/drug treatment	Dermatology
Gastroenterology	Ophthalmology	Orthopaedics	Rheumatology	Sleep disorders
Urogynecology	Dentistry	Otolaryngology	Immunology	

Focus level (Therapeutic depth factor)		
Biochemistry level	Genomic	Proteins and Cell signaling
Cellular	Tissue level	Organs

Team composition		
Number of employees	Number of specialized doctors	Doctors/employees ratio
Number of doctors	Doctors qualification	Doctors' h-index

Equipment			
CT\PET scanner	Non-Surgical Heart Therapy Device	Medical ventilators	MRI machine
DaVinci robotic	GAINSWave	MR-TRUS Fusion	CyberKnife
CTC	Doppler Ultrasonography	FlexArm	Dual-Energy X-ray Absorptiometry (DXA)
Isokinetic Dynamometer	Fit3D	SizeStream	HRV optimization Device
3D whole body photo-imaging system	Air Displacement Plethysmography system		

Orientation		
Personalized Diagnostics	Personalized QALY & HALE Estimation	Personalized Biomarker Analysis
Personalized Prognostics	Personalized in vivo & in silico drugtesting	Preventive Therapies

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Precision Medicine Clinics Analytical Framework

Ranking of Top 100 Precision Medicine Clinics

Strong (> 90)

Intermediate (< 70)

Weak (< 50)

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Precision Medicine Clinic Analytical Framework: Clinic Harmonization Analysis

10,5 General characteristics

7,95 Equipment

1,2 Orientation

1,2 Focus level (Therapeutic depth factor)

11,3 Team composition

6.25 Science active

12,28 Targets of treatment

8.3 Financial position

2.5 Marketing

3.8 Service

4,6 Technologies

5,25

3,975

0,6

0,6

3,125

5,65

4,15

6,14

1,25

1,9

2,3

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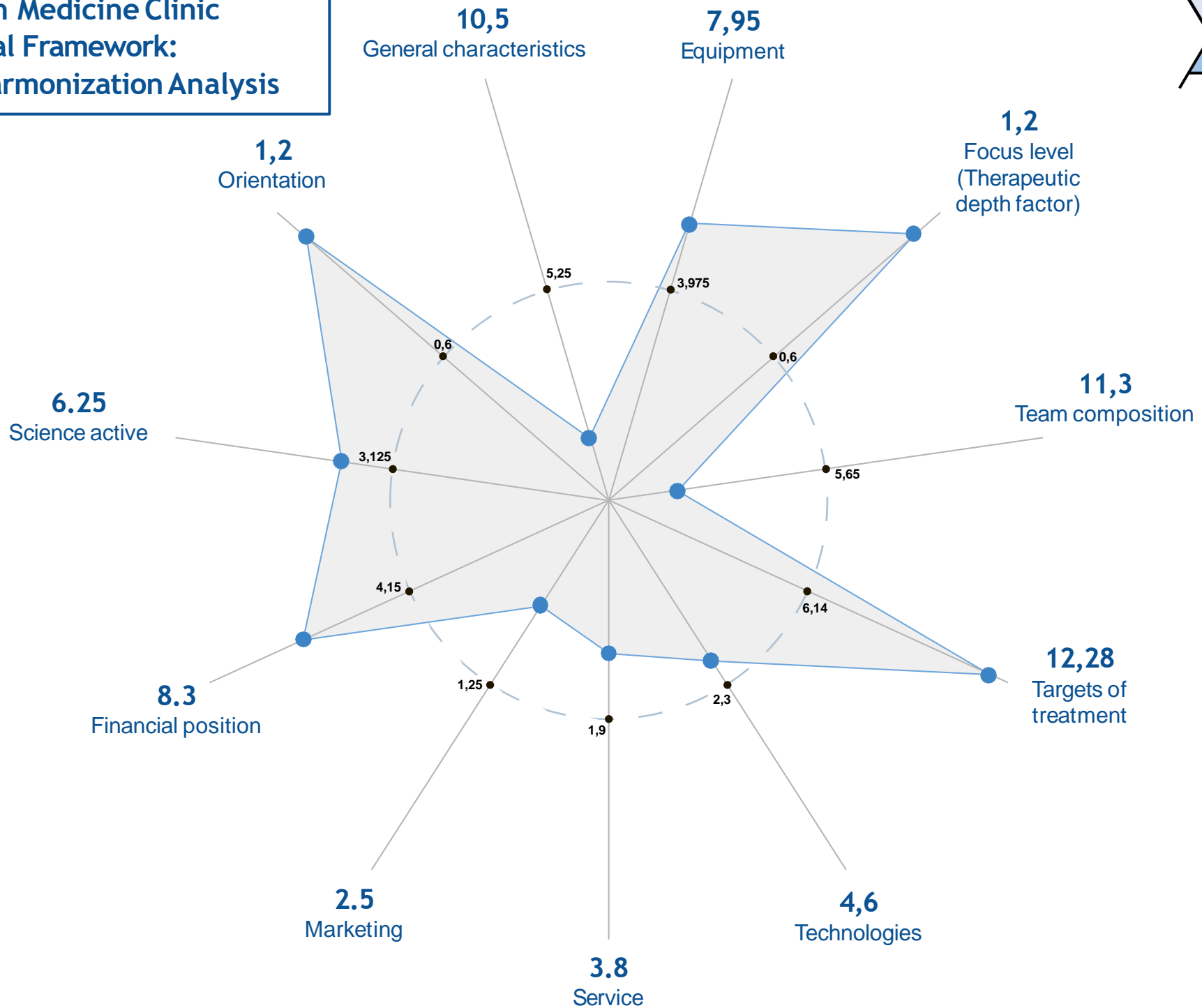
Precision Medicine Clinic Product and Service Pipeline Therapeutic Depth vs. Breadth Analysis

Precision Medicine Clinics Industry Analytical Framework

Hexagon labels:

IT expenditures | Product type | Collaboration | Company type | Ratio of funding to clinical trials | Number of subsidiary companies | Events attended | Sponsorship activities

Top managers' qualification | Stage of business life cycle | Region regulation | Number of investors | Annual revenue | Customers interest level | Participation in big industry conferences | Media mentions

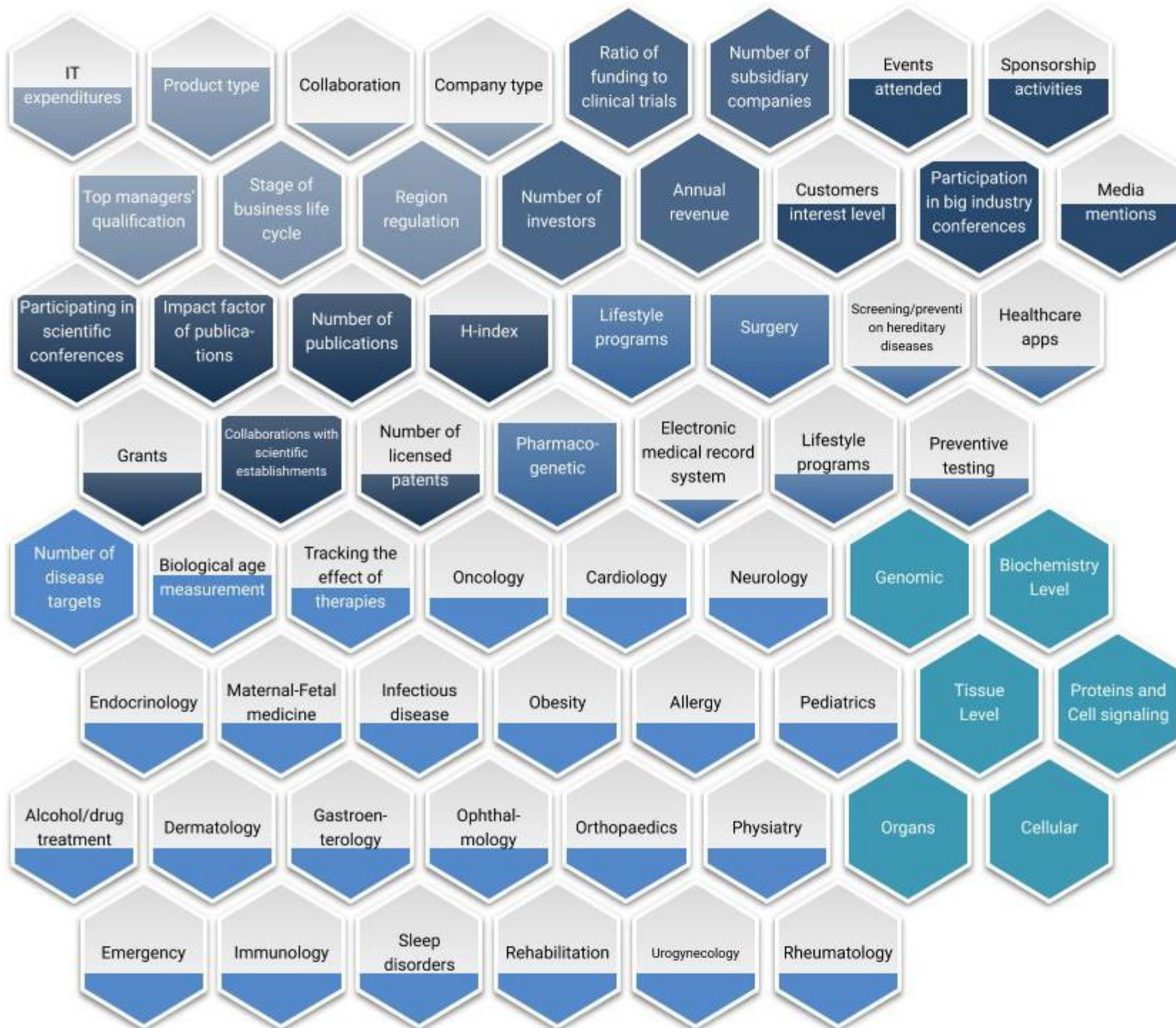Participating in scientific conferences | Impact factor of publications | Number of publications | H-index | Lifestyle programs | Surgery | Screening/prevention hereditary diseases | Healthcare apps

Grants | Collaborations with scientific establishments | Number of licensed patents | Pharmaco-genetic | Electronic medical record system | Lifestyle programs | Preventive testing

Number of disease targets | Biological age measurement | Tracking the effect of therapies | Oncology | Cardiology | Neurology | Genomic | Biochemistry Level

Endocrinology | Maternal-Fetal medicine | Infectious disease | Obesity | Allergy | Pediatrics | Tissue Level | Proteins and Cell signaling

Alcohol/drug treatment | Dermatology | Gastroenterology | Ophthalmology | Orthopaedics | Physiatry | Organs | Cellular

Emergency | Immunology | Sleep disorders | Rehabilitation | Urogynecology | Rheumatology

Legend:

- General characteristics
- Science activity
- Financial position
- Marketing
- Services
- Targets of treatment
- Focus level (depth factor)

Technology Readiness Level (TRL)

9	Commercialized
8	Pre-Production
7	Field Test
6	Prototype
5	Bench/Lab Testing
4	Detailed Design

Technology Readiness Levels (TRL) are a common measure of how close a technology is for practical use, used in many engineering disciplines.

By applying it to progressive medicine, we can forecast how long it will take a given therapeutic or technology to witness practical applications in the clinic or home. The darkness of each hexagon represents its TRL, with darker colors indicating a low TRL and brighter colors indicating a high TRL.

All technologies and therapeutics shown here have a TRL between 8-9.

Aging Analytics Agency