

PATIENT SPECIFIC ORAL CARE

- ACTIVE ALIGNERS & SPLINTS -



activ-al.com

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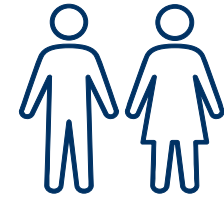
CSEM AT A GLANCE

Csem is a public-private,
non-profit, Swiss
technology innovation center.

We enable competitiveness
through innovation by
developing and transferring
world-class technologies to industry.



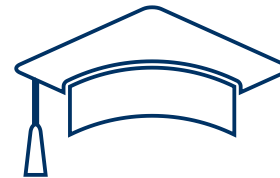
COMBINING EXPERTISE, PASSION, AND DIVERSITY FOR SUCCESS



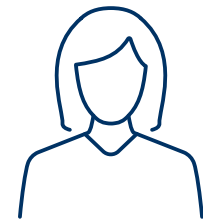
600
EMPLOYEES



46
NATIONALITIES



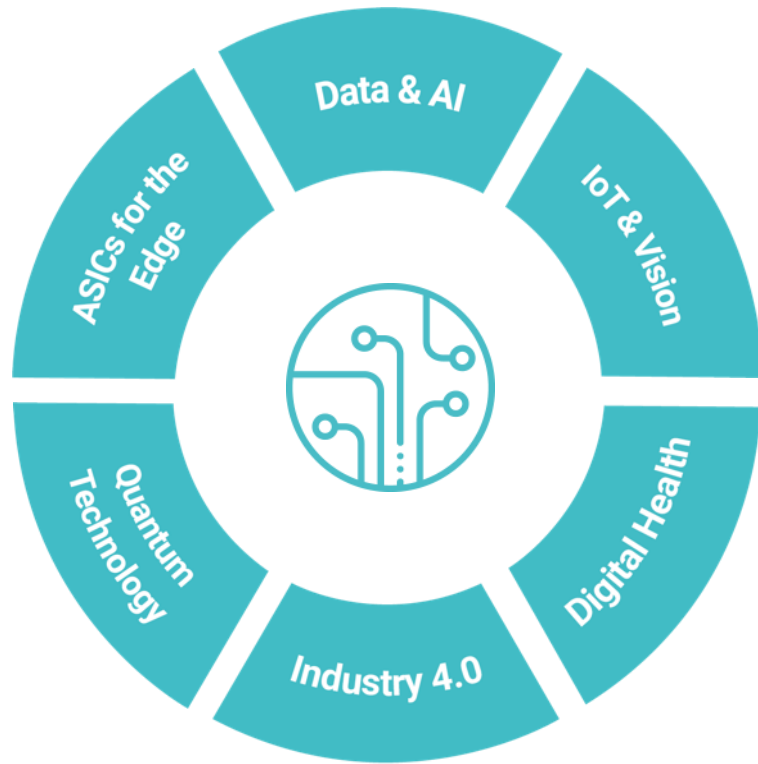
35%
PHD



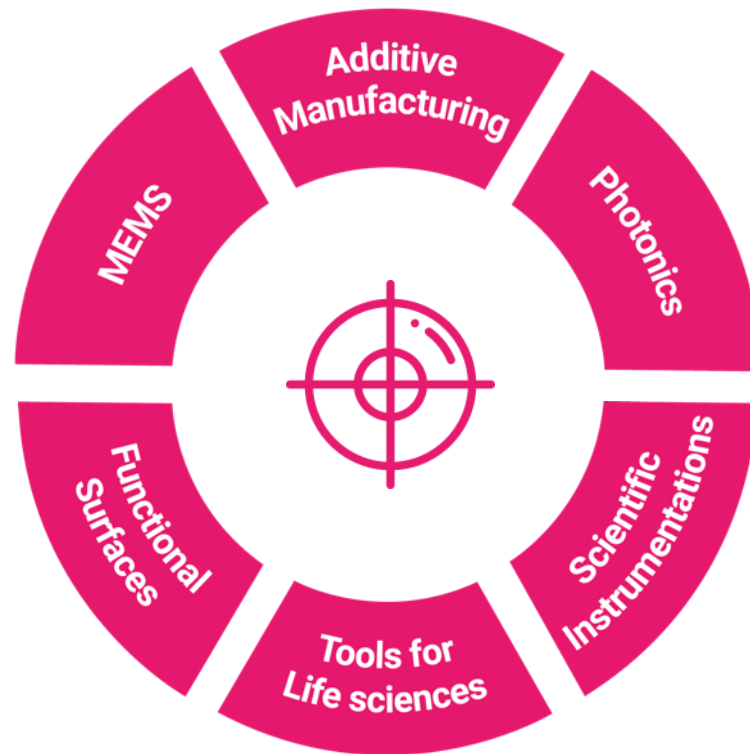
28%
WOMEN

WE FOCUS ON THREE RESEARCH PRIORITIES

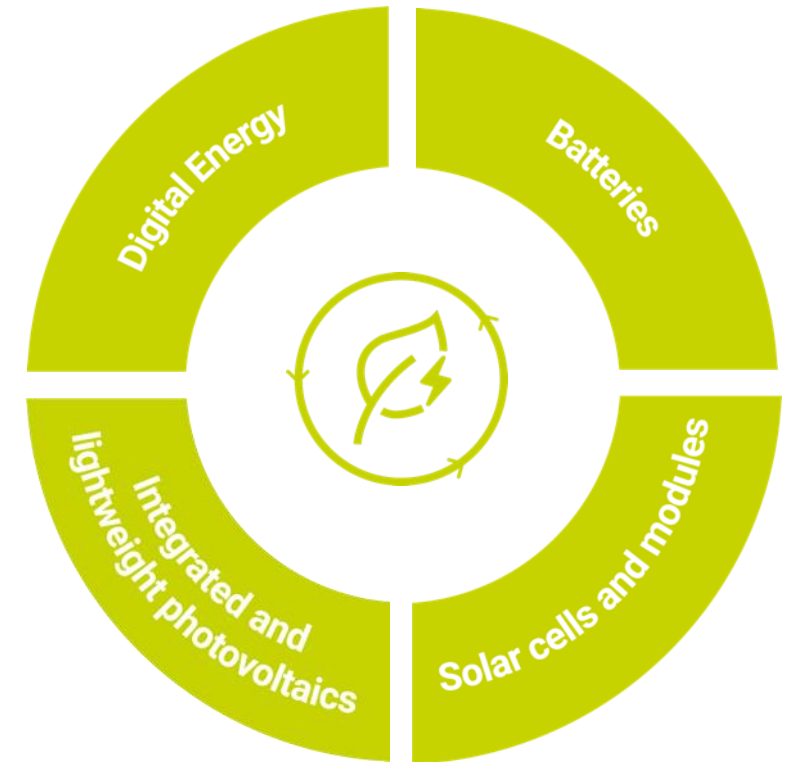
Digital Technologies



Precision Manufacturing



Sustainable Energy



Your Mouth. More Than You Think.



Every day, an adult swallows nearly

one litre
of saliva.

But saliva doesn't just contain water—it also contains **millions of harmful bacteria** linked to



Tooth decay



Gum disease



Bad breath



Oral infections



Millions of harmful bacteria travel through your mouth and body—every single day.

THE IMPACT GOES BEYOND YOUR MOUTH

Increasingly, studies are showing a clear mouth-body connection and that these bacteria are associated with **broader health complications** such as:



Cardiovascular disease

Oral bacteria and inflammation are associated with blood vessel damage and heart disease.



Diabetes

Gum disease worsens blood sugar control and insulin resistance.



Respiratory infections

Harmful bacteria are inhaled into the lungs and cause infections.



Systemic inflammation

Chronic oral infections trigger inflammation throughout the body.



Cancers

Oral bacteria and chronic inflammation have been linked to an increased risk of cancers, including oral, throat, pancreatic, colon cancer etc.



The problem is simple:

Oral disease develops **continuously**, while oral care happens **2x a day**.



We believe it's time to change that by **making prevention smarter, simpler, and continuous.**



SMARTER

Science-backed insights that identify risks early.



SIMPLER

Effortless solutions that fit easily into daily life.



CONTINUOUS

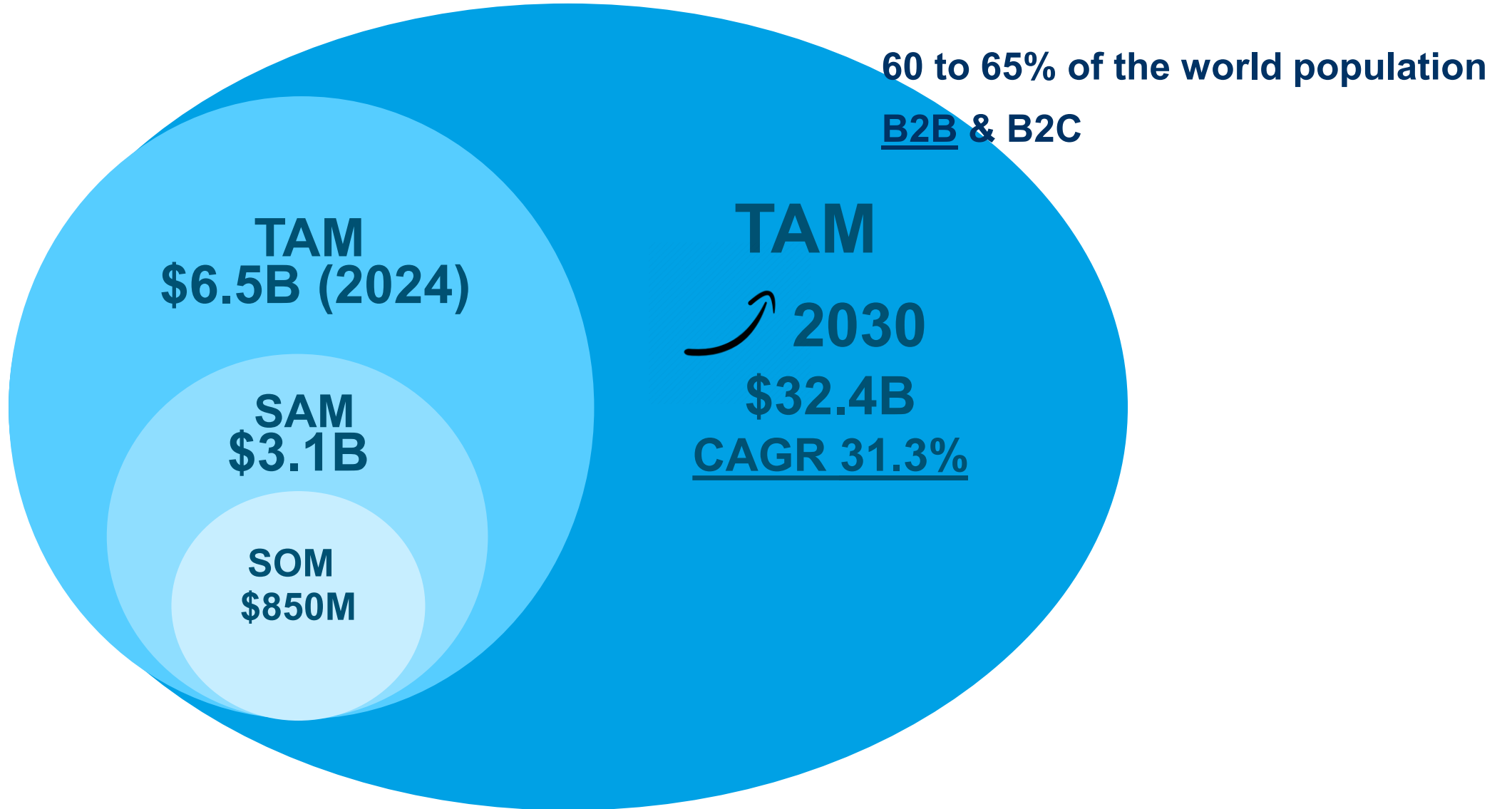
24/7 protection for better oral and overall health.

CLEAR DENTAL ALIGNERS

- A disruptive alternative to traditional metal braces
- Discreet, transparent and removable
- Set of 10-30 unique aligners (\$1 - 2k per set)
- Each is worn for approx. 10 days

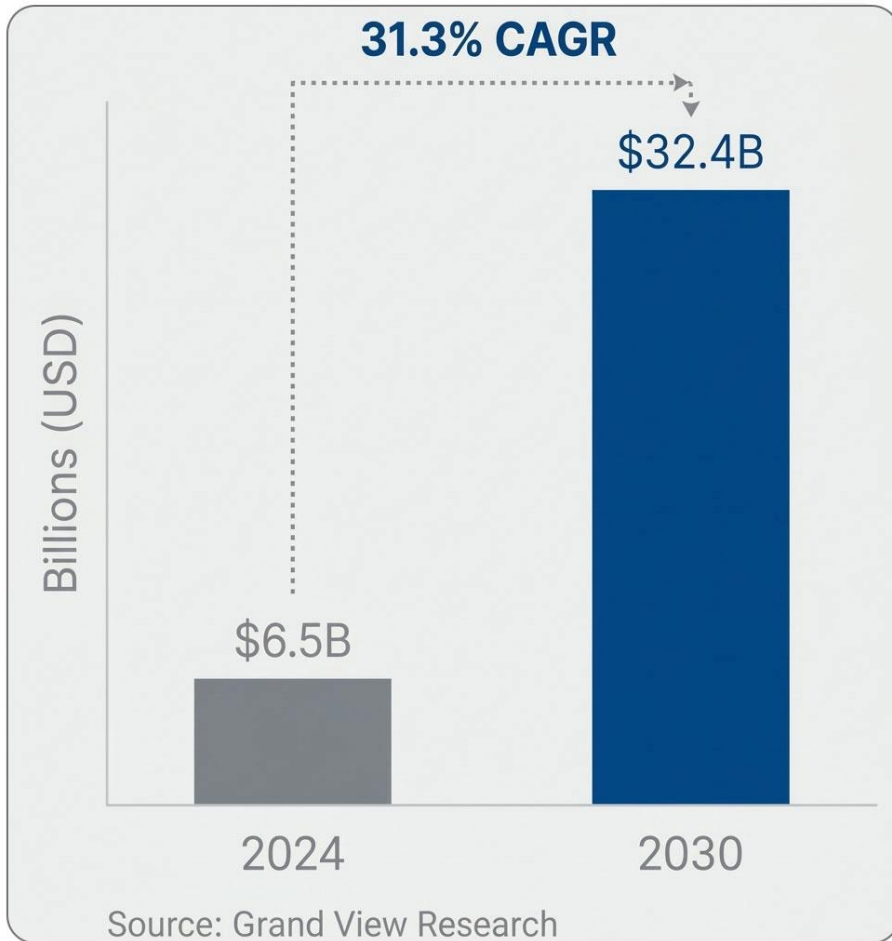


CLEAR ALIGNER MARKET



The Clear Aligner Market is Exploding, But Hides a Critical Flaw

The Market Boom



The Hidden Cost

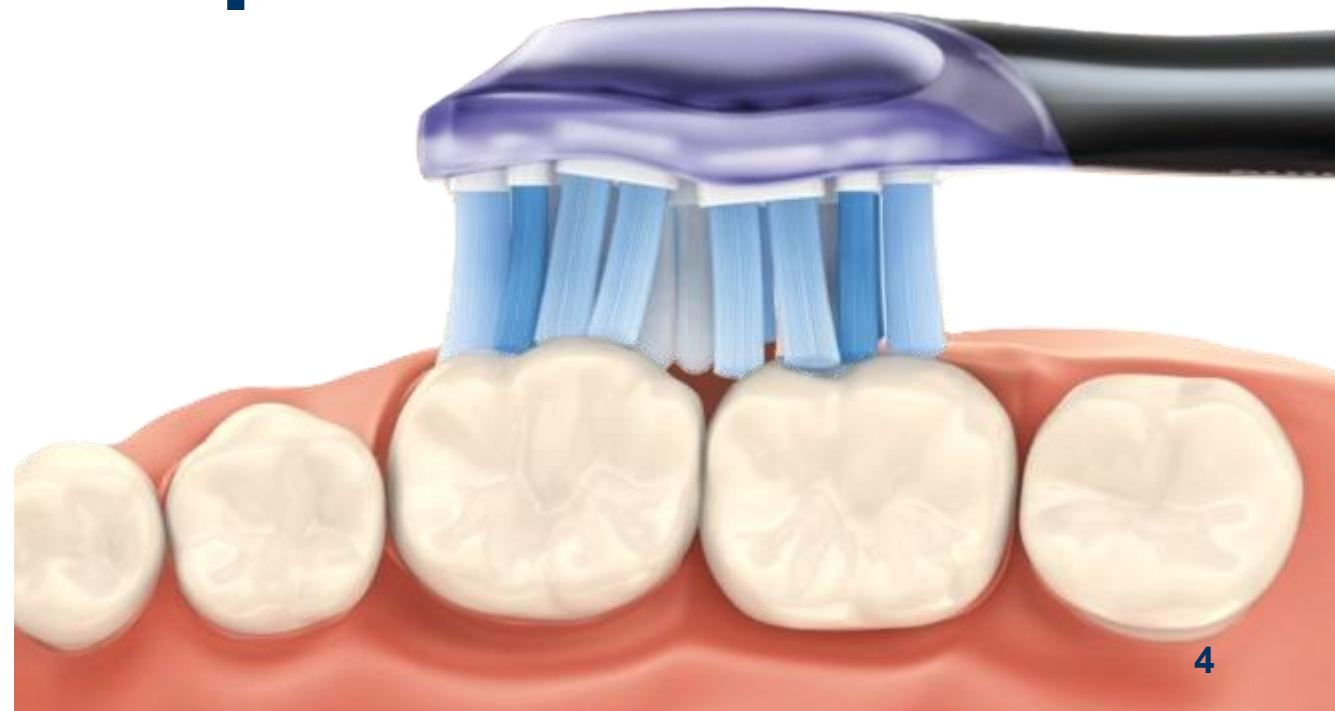


- Aligners are worn **22 hours a day**, blocking saliva and oxygen - the body's natural defence.
- This leads to increased bacterial build up, plaque, bad breath and enamel decalcification (caries lesions).
- Up to **41% of patients** experience enamel decalcification.

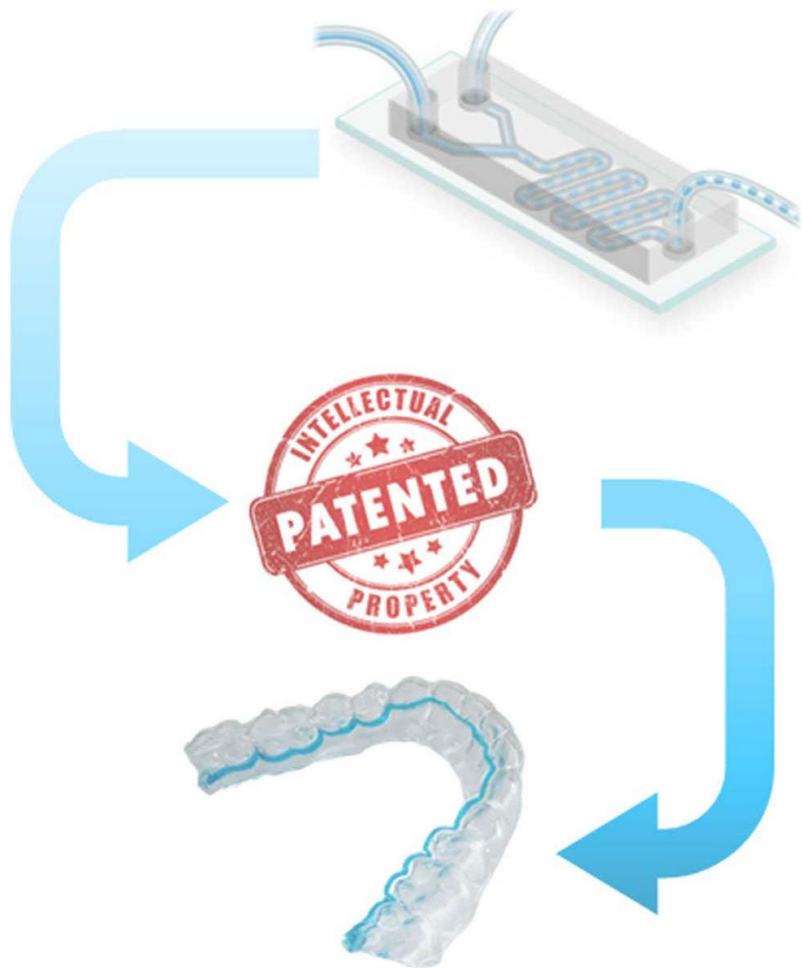
TRADITIONAL ORAL CARE



- X Short term protective film 1-2h**
- X Unreachable zones**
- X User-dependent**



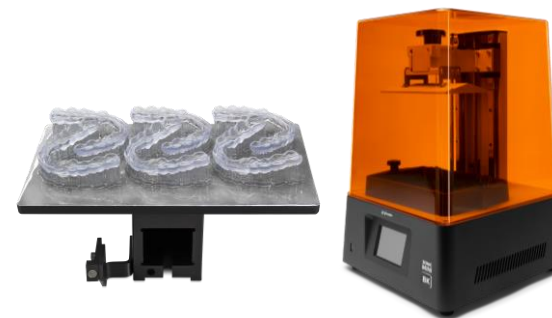
ALIGNER 2.0 = ACTIVE ALIGNERS



- Direct 3D printed aligners with microfluidic channels

- Filled with beneficial fluids:

- Antibacterial solution
- Fluoride/Calcium
- Flavor



- Fluid is slowly released → Active aligner

- ✓ No bacterial buildup
- ✓ Enamel remineralization
- ✓ Pleasant breath



*Fluid is transparent

- 4 patents & 2 trademarks

ACTIVAL - CONTROLLED SLOW RELEASE

✓ 15 days w/o refill => refillable

✓ Long term protective film

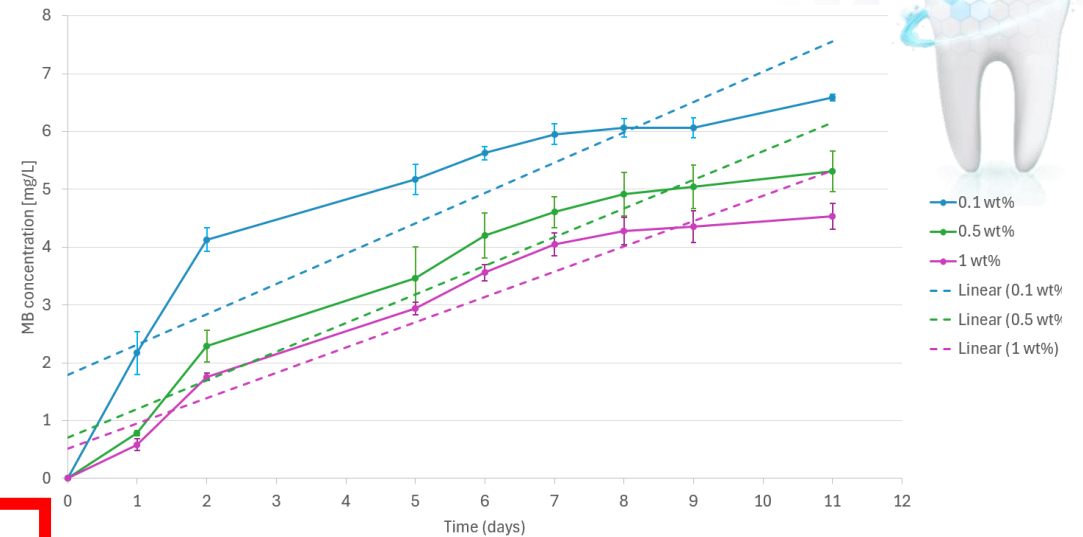
✓ Proven performance:

- 99.9% Bacterial removal
- 84% Caries prevention

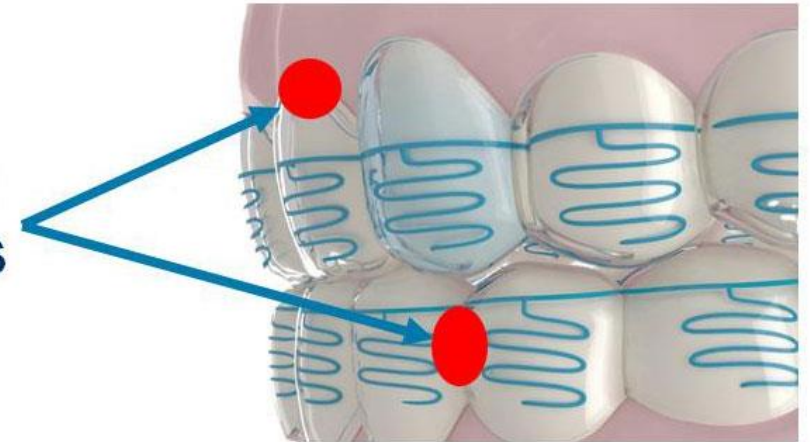
✓ Patient specific

✓ Targeting hotspots

✓ Other applications



Targeting patient specific hotspots

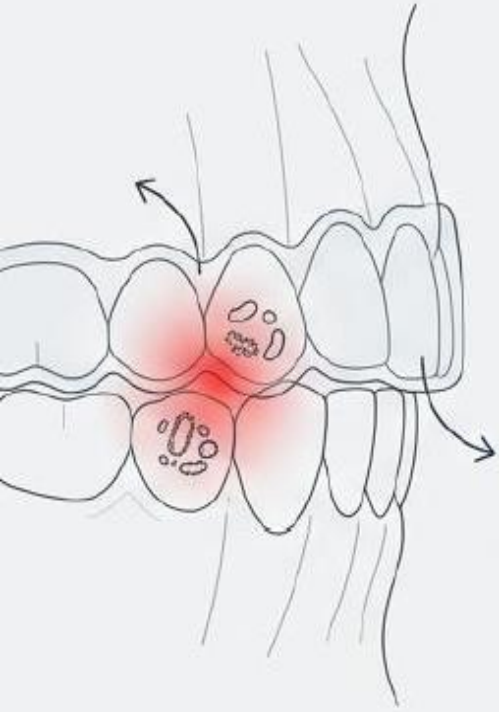


Transforming a Hygiene Risk into a Therapeutic Opportunity

Conventional Aligner (Passive)



- Blocks saliva & oxygen
- Traps bacteria against teeth
- Risk of caries & odor
- ~22h of bacterial breeding

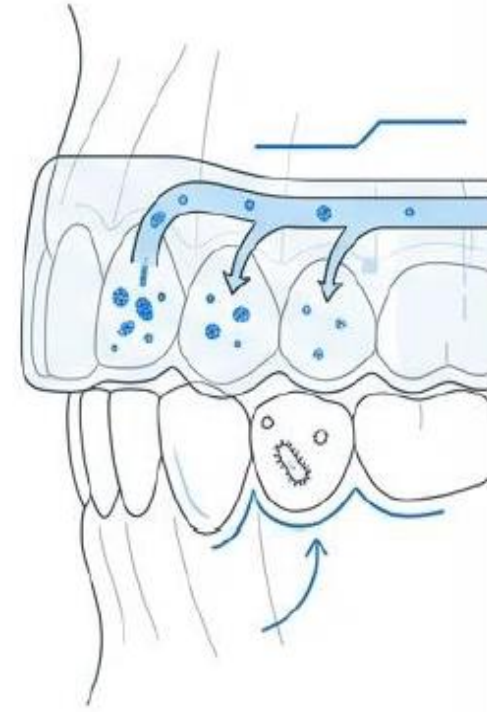


VS

Actival (Active Device)



- Releases antibacterial fluid
- Prevents bacterial buildup
- Remineralizes enamel
- ~22h of active therapy



WORLD OF UNICORNS

Company	Logo	Business model	Aligner type	Price (USD)	Value (USD)
Align Tech		B2B	Passive	2-4k	3.7B sales/year
Angelalign		B2B	Passive	1-2k	1.47B
Smile Direct		B2C (onsite)*	Passive	2-3k	7.5B @ IPO
Byte		B2C (remote)	Passive	2-3k	Exit @ 1.04B in less than 2y, no VC funding**
Candid		B2C (remote)	Passive	2-4k	Raised 151M
Smile2Impress		B2C (onsite)/B2B	Passive	2-4k	Raised 196M
Modern Clear		B2B	Passive	1-2k	/
BestSmile (CH)		B2C (onsite)*	Passive	3-5k	3 years – exit, 50M+ \$ sales/year, 10+% profit, 320FTE in CH
Actival		B2B	Active	1-2k	/

BUSINESS MODEL

Manufacturing & Sales of active aligners



- COGS - 5 CHF/aligner
- Price per aligner set 1-2k CHF
- Price towards clinics – 50 CHF/aligner
- Price for distributors – 30 CHF/aligner

Direct B2B
10x markup

Indirect B2B
5x markup

Distributors:

US + Europe:
• 20k orthodontists
• 520k dentists



DENTAL CLINIC

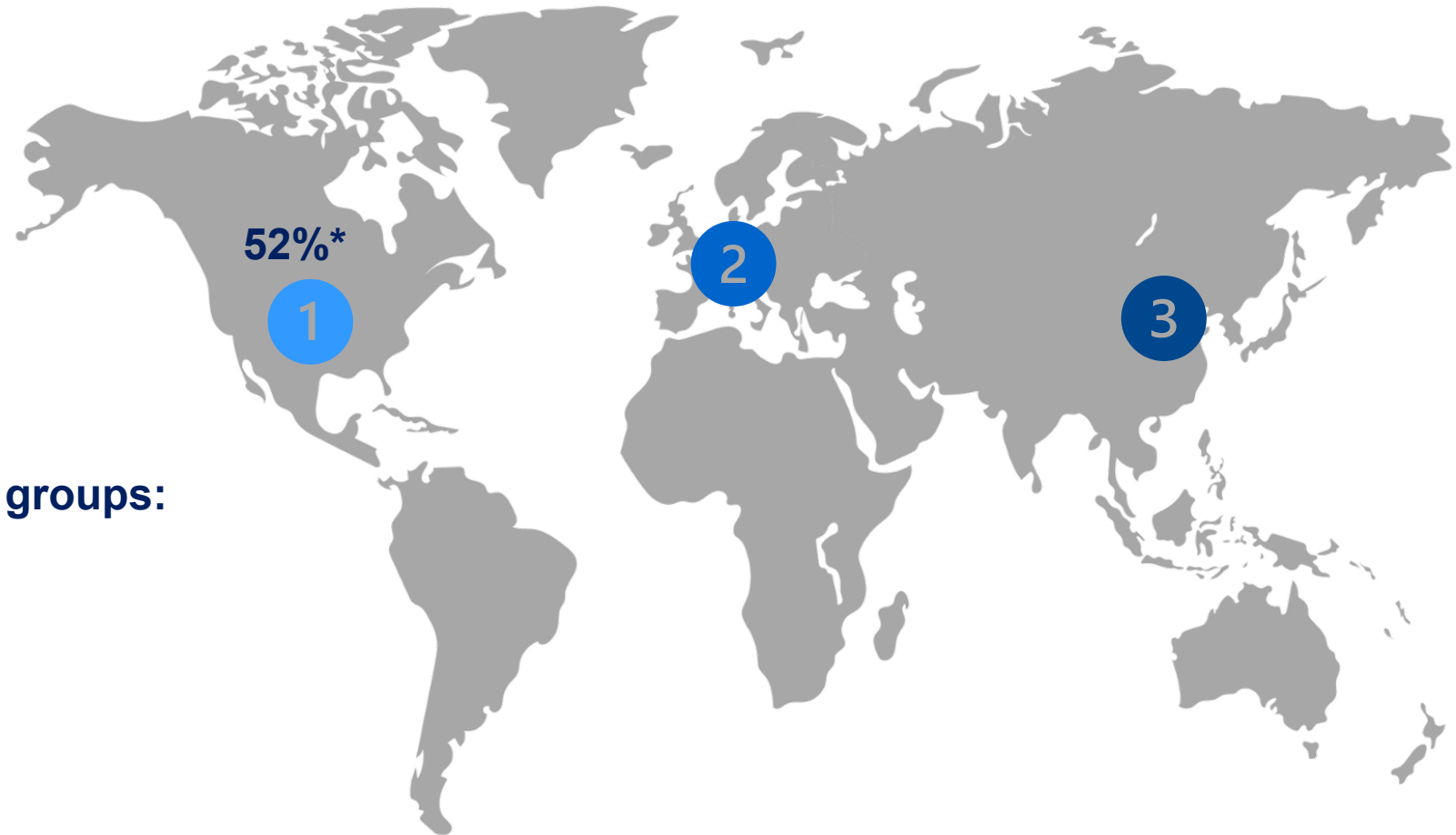
GO TO MARKET

Commercial launch via digital sales channels & distributors

- 1 US launch – Q4 2026
- 2 Europe - 2027
- 3 Asia - 2028

Regulatory - three product groups:

- Class I exempt
- Class IIa – 510k



Actival Around the World

Global Traction & Validation

2.000+ Lols

From dental clinics that are interested to become early adopters.

\$50M/year (ARR)

If from 2.000Lols – 650 become customers;
Unit economics of \$1-2k/patient
at 4 patients/month -> 50M ARR

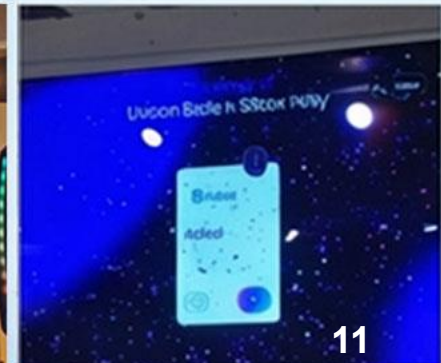
Winner

Unicorn Battle in Silicon Valley

Endorsed and selected by a demanding
Jury of 15+ VCs



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REVENUE GROWTH

Aligner sales:

- Average dental clinic — 60-65k CHF/year
- Large dental distributors/DSO — 10M+ CHF/year
- Received 2.000+ Lols dental clinics



Year	2026	2027	2028
Clinics @ 40% of aligners (CHF)	20 (250k)	135 (3.5M)	290 (7.3M)
Clinics @ 80% of aligners (CHF)	6 (200k)	30 (1.5M)	120 (6M)
Distributors @ 25% of aligners (CHF)	/	1 (2.5M)	2 (5M)
Total aligner sales (CHF)	400k CHF	7.3M CHF	18.3M CHF

- **200k dentists / 9k orthodontists in US**
- **320k dentists / 11k orthodontists in Europe**

INCOME STATEMENT

Seed \$2.4M



Income statement (k CHF)		2026	2027	2028	2029	2030	2031
	Aligner sales	403	7'414	18'356	67'184	167'148	340'616
	Auxiliary products	56	476	2'625	6'020	8'855	16'380
	% of TAM (CAGR adjusted)	/	0.09%	0.17%	0.49%	0.93%	1.46%
	Total revenue (k CHF)	459	7'890	20'981	73'204	176'003	356'996
	COGS	61	927	2'558	8'368	19'246	38'035
	Gross Profit	398	6'963	18'423	64'836	156'757	318'961
	Income (loss) from operations	-418	508	4'068	16'246	52'597	119'051
	Corporate tax	-14.89%	0	-606	-2'419	-7'832	-17'727
	CAPEX						
	Manufacturing	350	850	1'000	2'000	2'000	2'500
	Net income (k CHF)	-768	-418	2'462	11'827	42'765	98'824

DIRECTLY 3D PRINTED ALIGNERS

Aligner 1.0

Digital dentistry



Scan

Treatment
planning

Mold
Design

Mold
printing

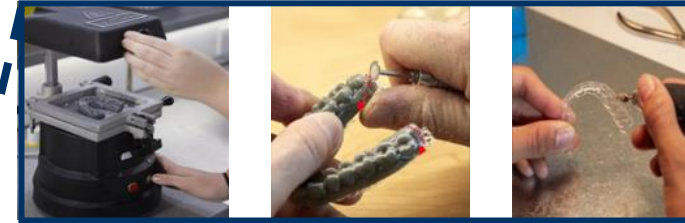
Post
processing

Thermo
forming

Aligner
cutting

Manual
polishing

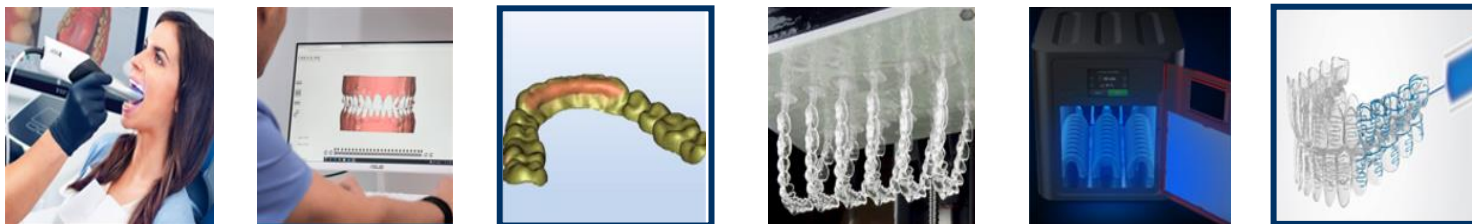
Digital stack is broken → No added value!



- ✓ Shorter manufacturing flow => reduced waste!
- ✓ Faster and cheaper production

Full digital stack → Patient/indication specific → Product with a strong added value!

Aligner 2.0



Scan

Treatment
planning

Aligner
design

Aligner
printing

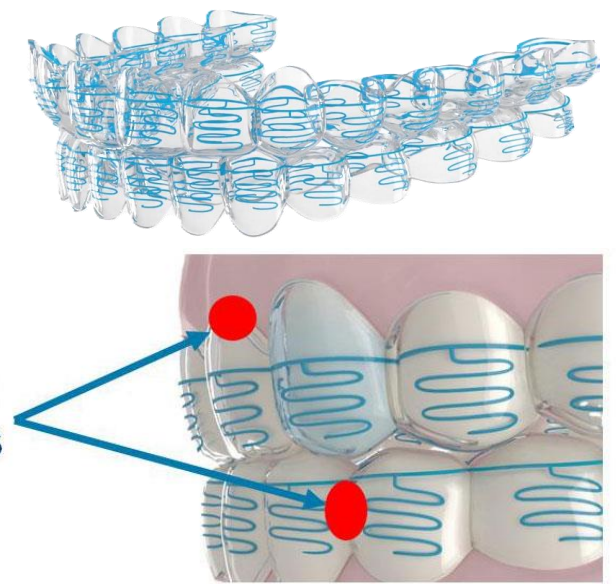
Post
processing

Microchannel
filling

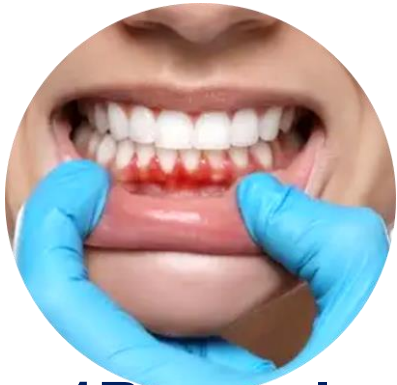
*AI driven 3DP
aligners with
variable
thickness/force

PATIENT SPECIFIC ACTIVE ORAL CARE BEYOND ALIGNERS

- Active Splints
- Patient specific treatment
- Targeting hotspots



Targeting patient specific hotspots



>1B people
Periodontal
diseases
\$2.6B



>2B people
Anti-bruxism
Splints
\$6.7B



Orthodontic
retainers
\$1.7B



Cavity
prevention
\$1.6B



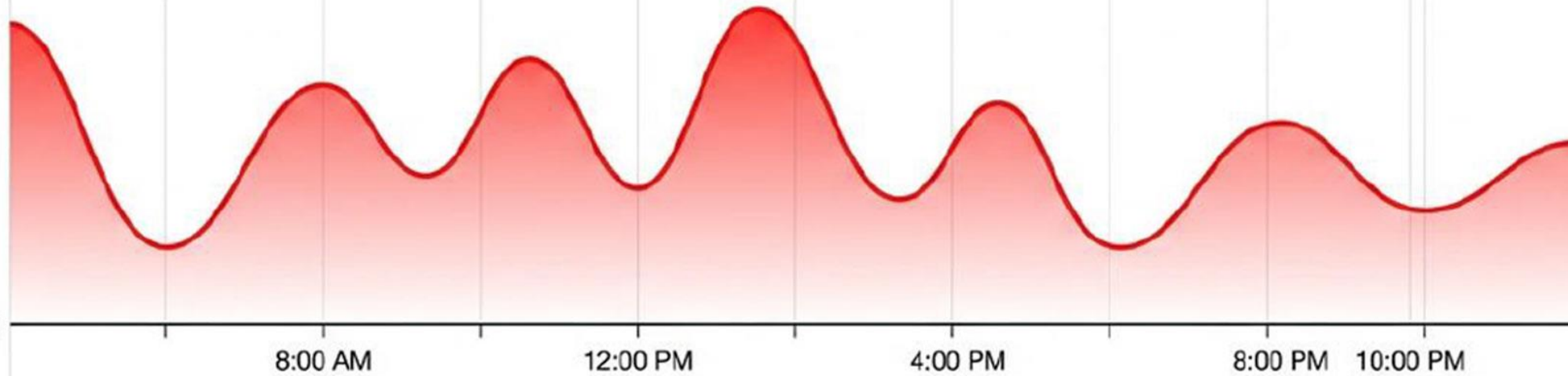
Peri-
implantitis
\$2.1B



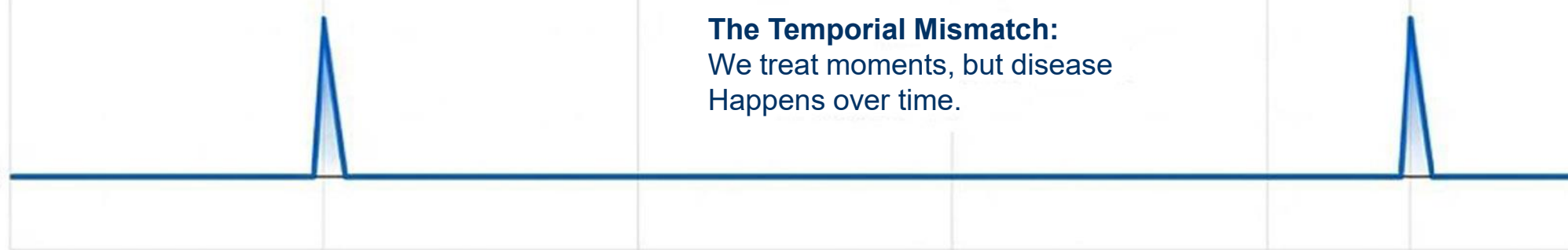
Sleep
apnea
\$7.6B

Oral Disease is Continuous. Oral Care is Not!

Disease Activity (caries, inflammation)



Current Protection (brushing/rinsing)



The Temporal Mismatch:
We treat moments, but disease
Happens over time.



The Reality:
Disease processes
Evolve continuously
Over hours.



The Limitation:
Current care creates
exposure windows
measured only in
minutes.

Long-duration protection: From episodic treatment to sustained, therapeutic defense.

The oral care prardigm is ready for its next evolution.

TODAY: The 4-minute routine



- A brief, user-dependent intervention
- Protective effects are short-term (1-2 hours)
- Effectiveness is limited by technique and
- Hard-to-reach zones.

TOMORROW: 24/7 Active Protection



- A continuous, background wellness system
- Targeted, slow-relese delivery of active ingredients
- Personalized care delivered viacustom-fit,
- Wearable appliance

LONG TERM VISION

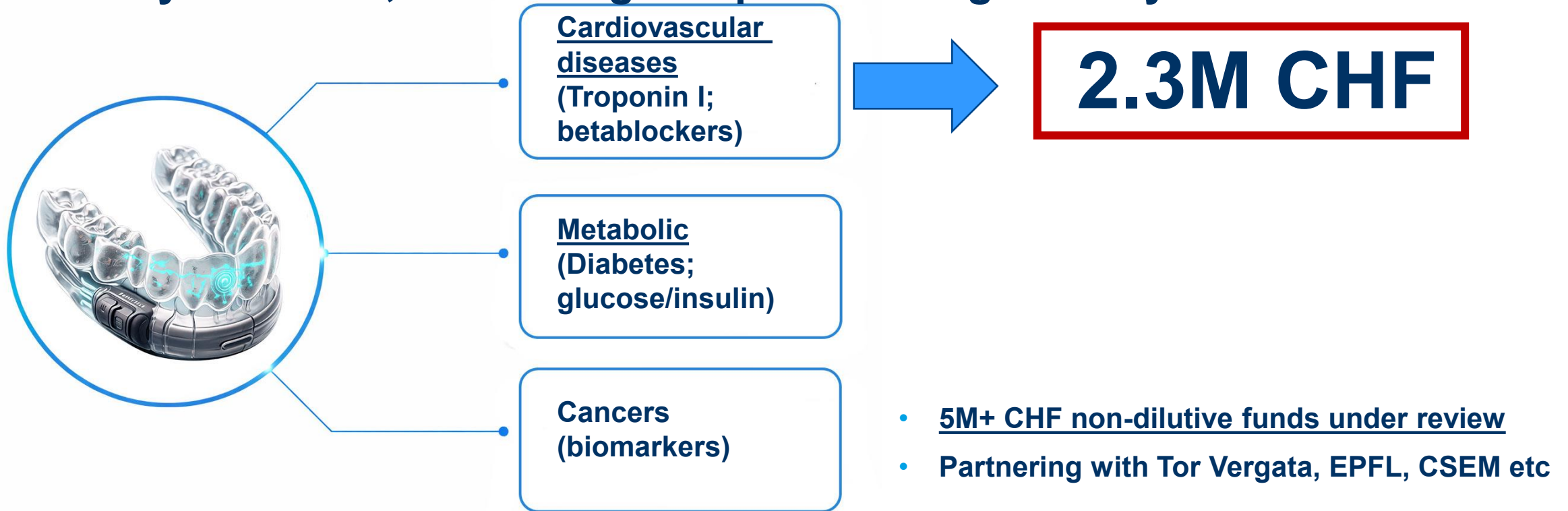
SMART DENTAL DEVICE



LONG TERM VISION

Microfluidic channels

- Saliva sampling
- Drug delivery
- Early detection, monitoring and precise drug delivery:





LAUNCH CAMPAIGN: WHILE YOU SLEEP

Your muscles recover. Your mind recovers.
Now, your smile recovers.

Positioning: The first system designed to restore your mouth while you sleep.

Context: Bedroom, not bathroom.

Emotion: Recovery, not hygiene.

SCIENTIFIC & RESEARCH COLLABORATIONS WITH DIRECT APPLICATIONS

Liquid-agnostic design

- Microfluidic design compatible with and adaptable to a wide range of beneficial liquids

Strategic collaborations for developing novel formulations:



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SCIENTIFIC & RESEARCH COLLABORATIONS WITH DIRECT APPLICATIONS



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Actival

WORLD LEADING EXPERTS

(KEY OPINION LEADERS)



**Prof. Dr.
Christos
Katsaros**

Clinic Director for
Orthodontics

🇨🇭 ZMK Bern, #7 worldwide (CH)



**Prof. Dr.
Hendrik
Meyer-
Lückel**

Executive Director of
Bern's Dental Clinic

🇨🇭 ZMK Bern (CH)



**Prof. Dr.
Livia
Tenuta**

Dept. Cariology,
Restorative Sciences &
Endodontics

🇺🇸 Ann Arbor, #1
dental school worldwide (US)



**Prof. Dr.
Burak
Yilmaz**

Director of the Digital
Dental Technologies

🇺🇸 Ohio State University/Bern
(US/CH)



**Prof. Dr.
Christopher
Tredwin**

Dean and Director of
Institute of Dentistry

🇬🇧 Queen Mary University
of London (UK)



**Prof. Dr.
Nikos
Donos**

Head of Clinical Oral
Research

🇬🇧 Queen Mary University of
London (UK)



**Prof. Dr.
Theodore
Eliades**

Clinic Director for
Orthodontics

🇨🇭 University of Zurich,
#8 worldwide (CH)

Fundraising

Raising \$2.4M Seed round
\$1.9M already committed



Strategic investors

Large dental company – \$1.5B revenue

VentureKick, Switzerland



Industry experts

Executive director, Global Top 10 dental clinic

Dental clinic owners/professors, etc

3 ex VPs - Leading dental companies



Founders & network

Cofounder of Unqork (US based unicorn valued at 2B in 3rd year – UI3)

Head of Investment banking HSBC, US

Cofounder of US based SaaS startup

Use of funds

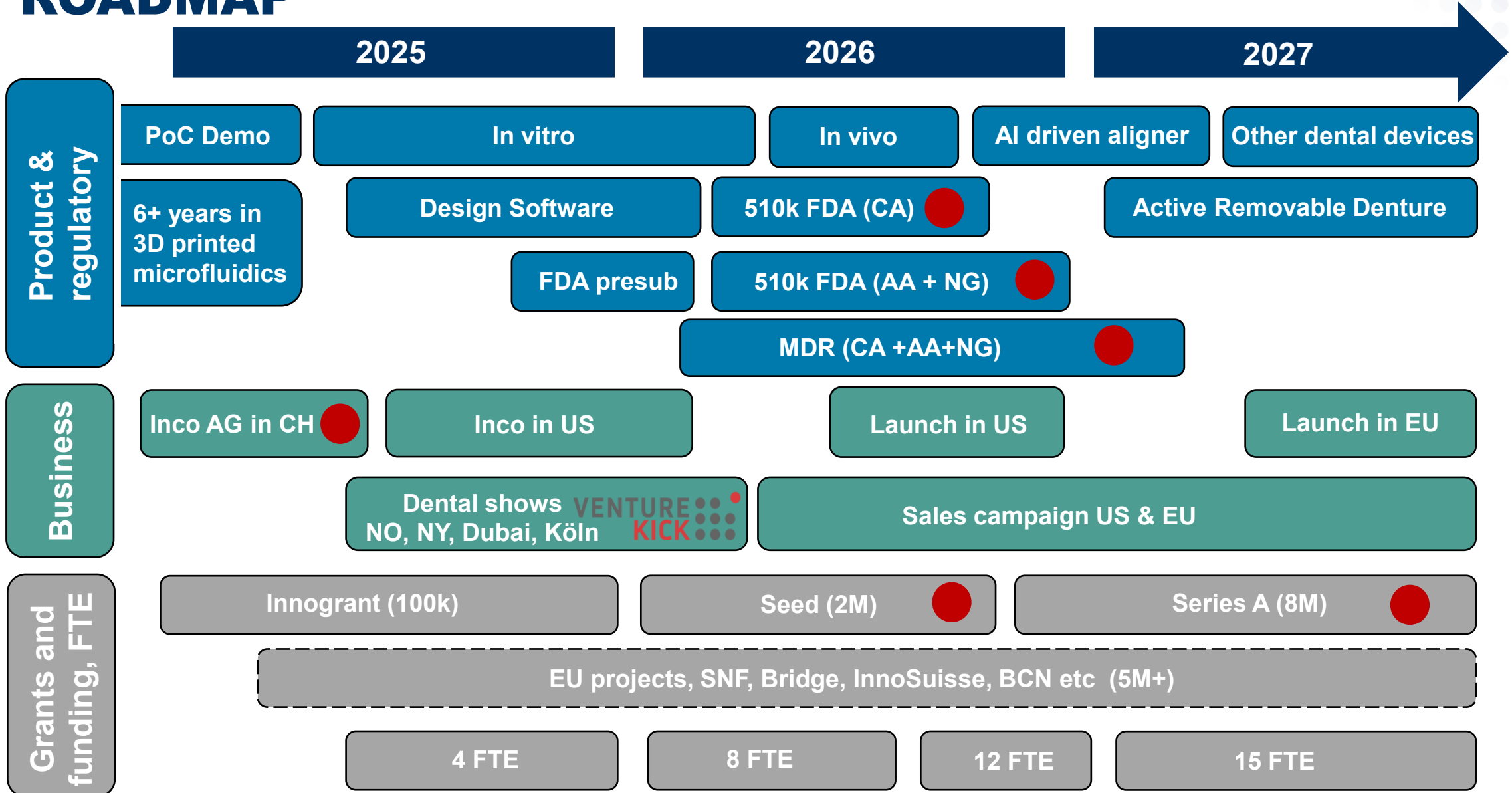


Sales & marketing

Focus on growth & market expansion

De-risked by strategic investors,
capital focused on growth.

ROADMAP



OUR TEAM - 12 FTE



Nikola, CEO

- PhD (EPFL)
- **15y+ in business dev**
- Serial entrepreneur
- Member of BAS (businessangels.ch)

Ghazal, CTO

- UniGhent
- Biomedical engineering
- Medical device dev
- Expert in simulations and design



Eleonore, R&D

- PhD (Cambridge)
- Material science
- Established R&D track record

Marko, R&D

- Project manager
- Project acquisition, procurement, admin
- ICT



Jelena, Regulatory Expert

- Doctor of medicine
- Senior position @ CRO

Marina, R&D microbiology expert

- PhD Uni Chicago
- Chemistry/microbiology



Milan, Senior International Sales Manager

- Extensive experience in the US market

Milena, Dental expert

- Expertise in orthodontic treatment planning
- Key account manager



Nikola, Dental design expert

- Digital dentistry
- Computer aided design and modeling

Experts



Prof. Dr. Hendrik Meyer - Lückel, UniBern

- **Executive Director** of the ZMK Dental Clinic in Bern
- **Head Dep. of Restorative and Preventive Dentistry**



Prof. Dr. Brett Kessler - ADA, US

- Past president of American Dental Association (ADA)



Dr. Cyril Alemany - Sunstar, CH

- Director Innovation Strategy



Martyn Eeles, GHIF

- **General Partner and Head of Europe** for Global Health Impact Fund and Network;
- Expertise in finance, sales and fundraising



Dr. Olha Sereda, CH

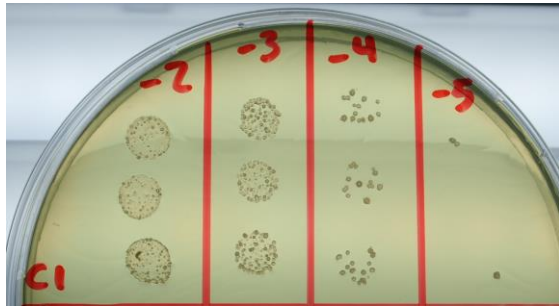
- Expertise in **Standardization, Certification, Quality and Component Reliability**

BACTERIAL TESTS

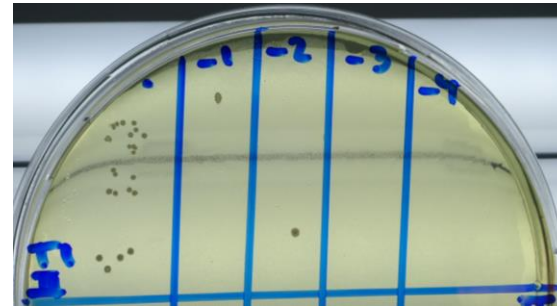
RESULTS – CFU COUNTING (LOG CFU/ML)



Control group: PBS

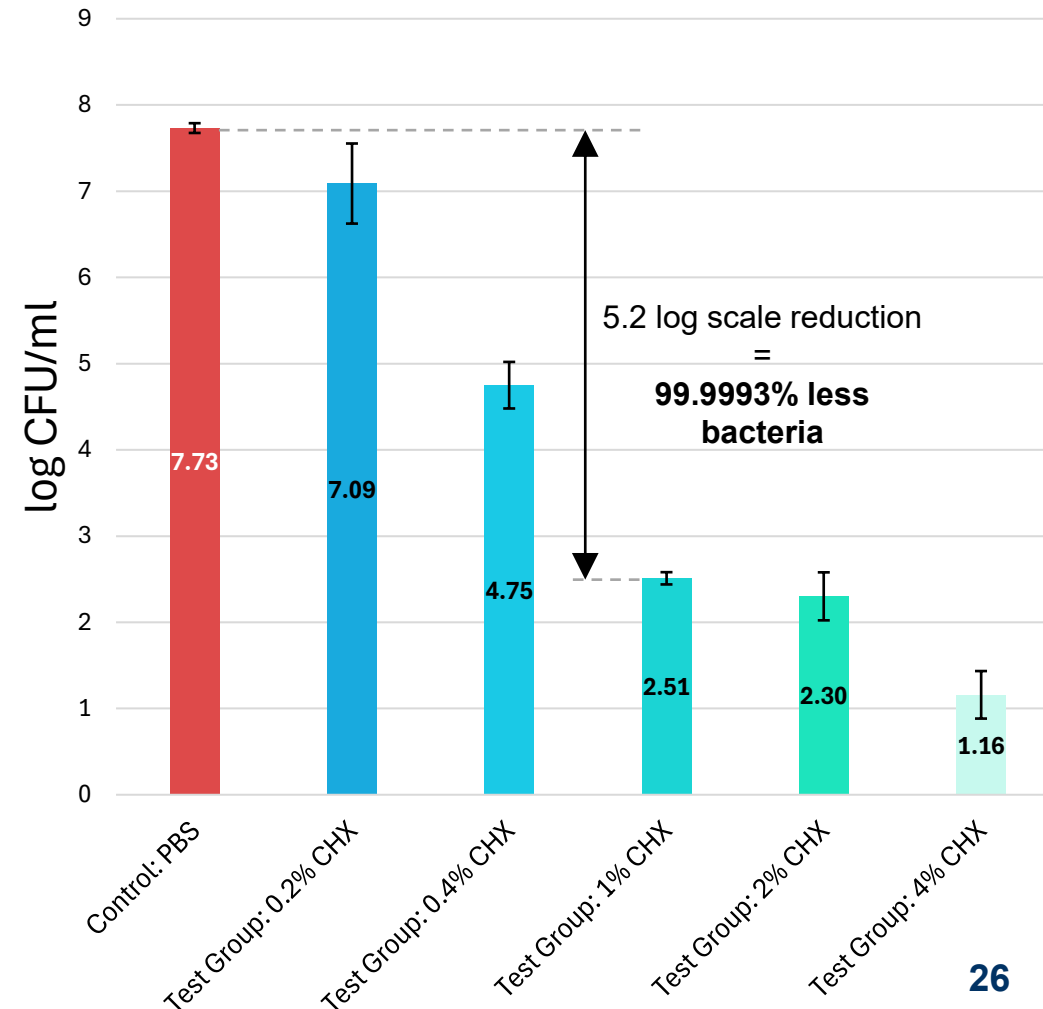


Test group: CHX 2%



	CFU/ml			log CFU/ml		
	Average	SD	Reduction % relative to control	Average	SD	Difference from control
Control: PBS	5.43E+07	7.07E+06		7.73	0.06	
Test Group: 0.2% CHX	1.65E+07	1.12E+07	69.6	7.09	0.46	0.64
Test Group: 0.4% CHX	6.49E+04	3.21E+04	99.88	4.75	0.27	2.98
Test Group: 1% CHX	3.67E+02	4.71E+01	99.9993	2.51	0.07	5.22
Test Group: 2% CHX	2.00E+02	0.00E+00	99.9996	2.30	0.28	5.43
Test Group: 4% CHX	1.67E+01	1.15E+01	99.99997	1.16	0.28	6.57

Biofilm reduction after 24 hours





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csem

FACING THE CHALLENGES OF OUR TIME

Oral care redefined!



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Innosuisse



STI



u^b UNIVERSITÄT
BERN

kick
start





SWISS DENTAL LABORATORY

Features:

- Multilayer zirconia - starting at \$60
- 5 years absolute warranty
- Certificate of material origin included
- Door to door shipping included
- Digital Lab connection



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INFO@ACTIV-AL.COM



SWISS ACTIVE ALIGNERS

- Slow release of antibacterial fluids and calcium during treatment
- Developed with world leading dental clinics
- Innovative technology for improved oral health



CONVENTIONAL CLEAR ALIGNERS

- Complete treatment planning by in-house certified ortodontists
 - High quality software for treatment planning
 - Multilayer materials from renowned global manufacturers
 - Fast and precise therapy
 - Aligners starting at \$20
- *further volume based discounts applicable



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