DimiCare

FAR BEYOND

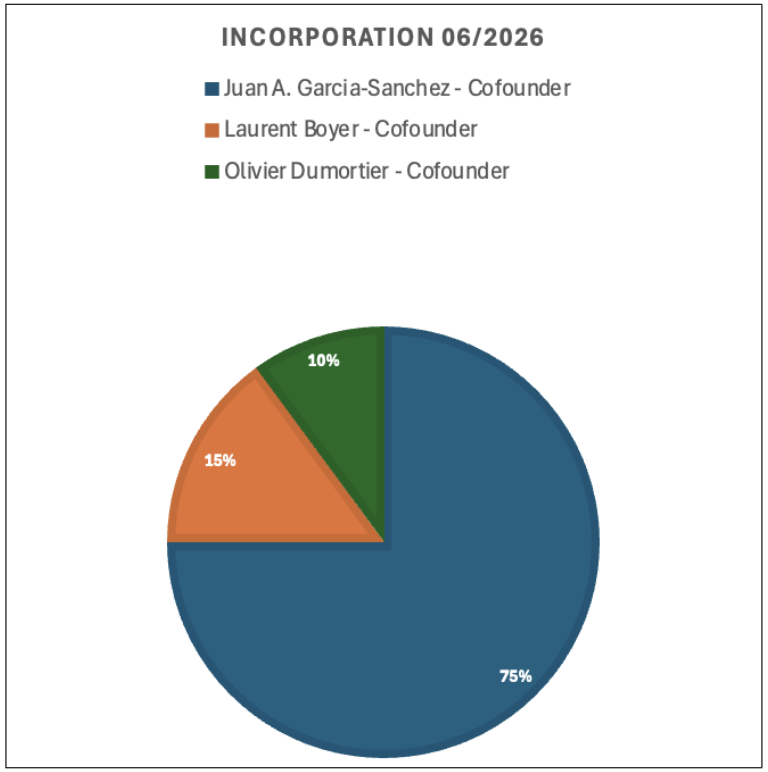
Pioneering therapeutical strategies to face antimicrobial resistance

Juan A. Garcia-Sanchez, PhD
Cofounder, CEO & CSO

DimiCare Biotech® - Team

Directory Board

Business Development	Entrepreneur	Scientific
		
O. Dumortier, MBA-PhD **Strategic Advisor** **10% FTE**	**J. Garcia-Sanchez, PhD** **CEO/CSO** **100% FTE**	**L. Boyer, PhD** **Scientific Advisor** **10% FTE**



Shares	% Ownership
135000	75,00%
27000	15,00%
18000	10,00%

180000	100%

Hosting Agreement – **University Côte d'Azur**
Research contracts – **INSERM** & **CNRS**

DimiCare Biotech® - Team

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Business Development



O. Dumortier, MBA-PhD
Strategic Advisor
10% FTE

Entrepreneur



J. Garcia-Sanchez, PhD
CEO/CSO
100% FTE

Scientific



L. Boyer, PhD
Scientific Advisor
10% FTE

Biology



P. Meola, MSc
CTO 100% ETP

Interdisciplinary



J. Mary
R&D Technician
Apprenticeship

Advisory Board

Financials



V. Denis
CFO – part time

Chemistry



C. Ronco, PhD
Scientific Advisor

Bacteriology



R. Ruimy, MD-PhD
Clinical Advisor

Business Develop.



Strategic advisor
(2026)

Microbiology



G. Michel, PhD
Scientific Advisor

Parasitology / Mycology



C. Pomares, MD-PhD
Clinical Advisor

Pre/Clinical Develop.



Strategic advisor
(2026)

Microbiology



P. Munro, PhD
Scientific Advisor

Clinical infectiology



J. Courjon, MD-PhD
Clinical Advisor

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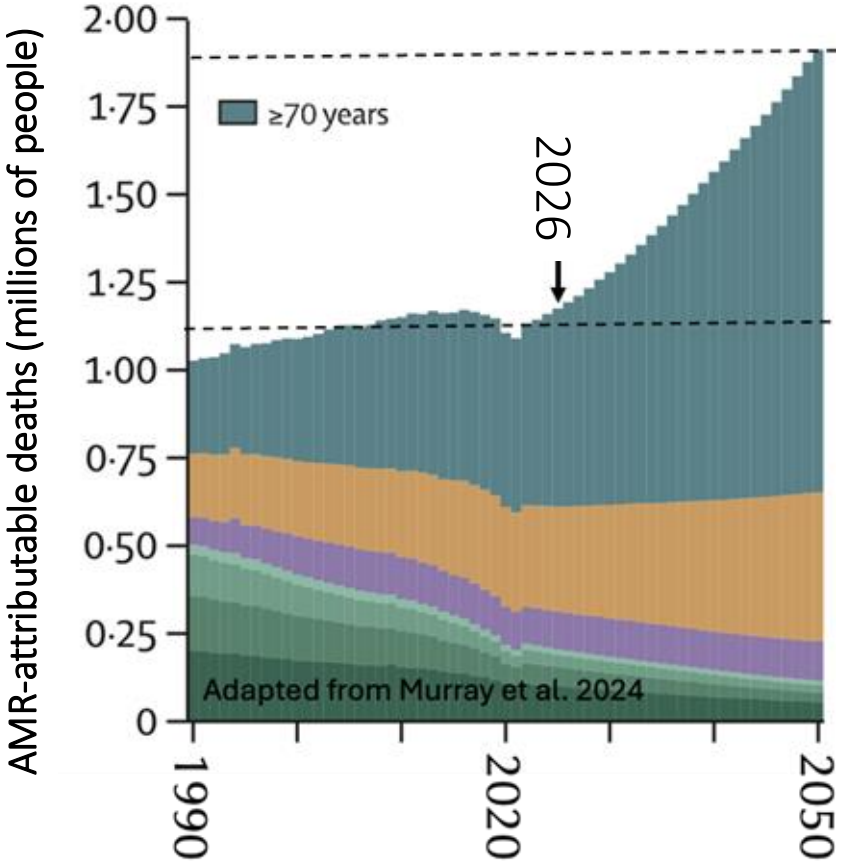
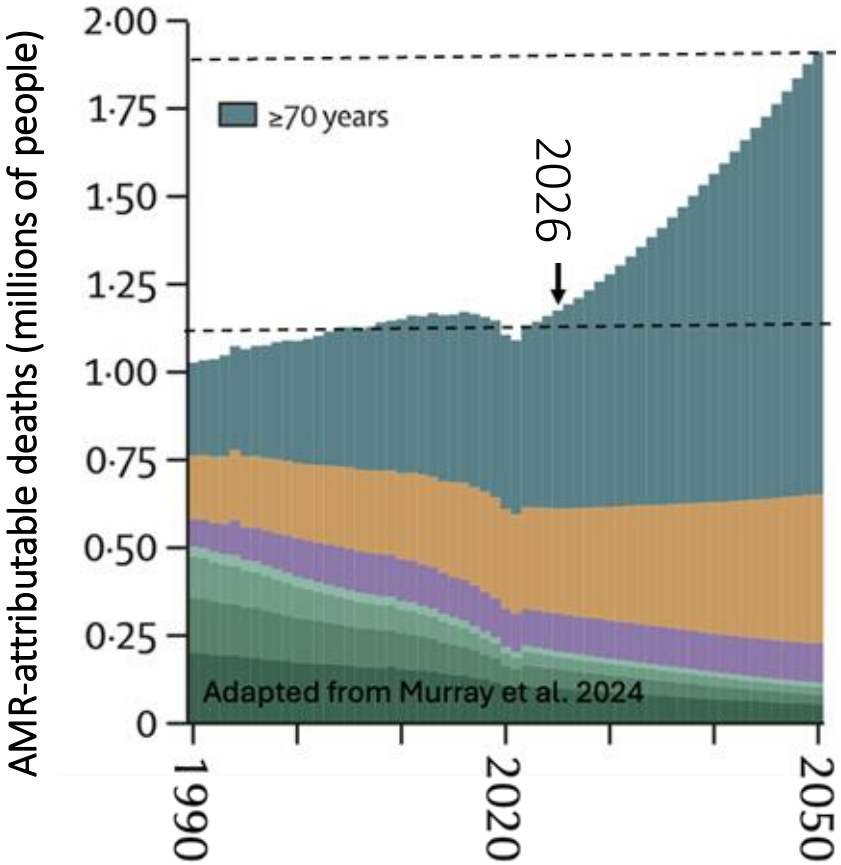
Antimicrobial resistance (AMR), a global threat



1.14 million deaths **directly attributed** to drug-resistant bacteria (**4.71 million associated** to AMR)

Antimicrobial resistance (AMR), an increasing issue

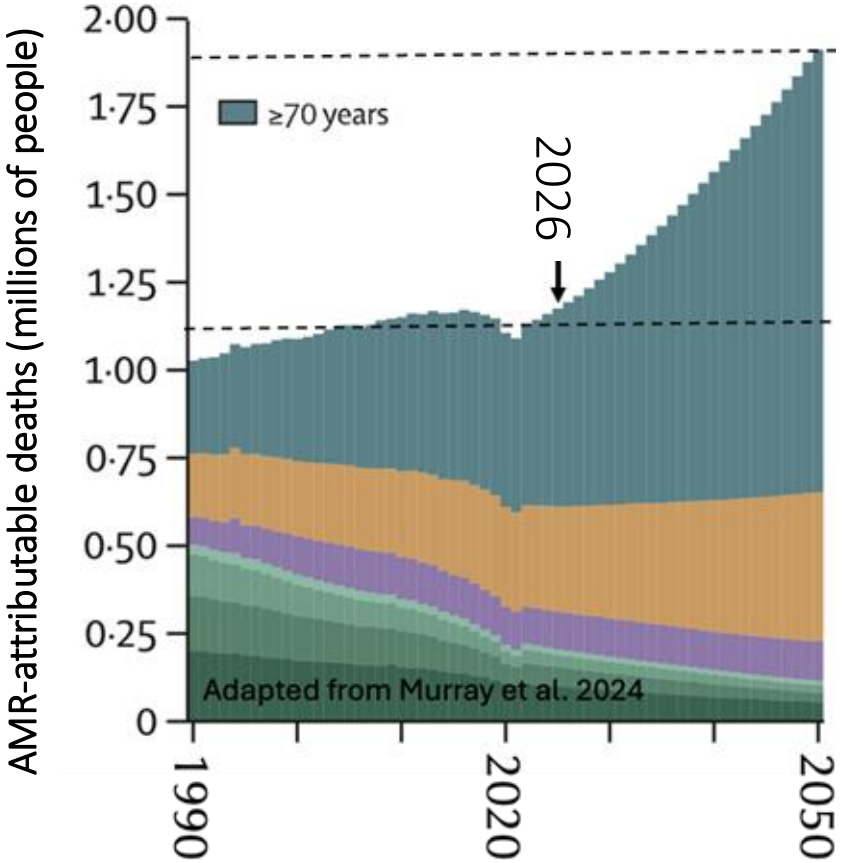


+156% in 2050 due to **unadapted treatments**, population **aging** (demographic revolution) and **low innovation** in antibiotic industry.

1.14 million deaths **directly attributed** to drug-resistant bacteria (**4.71 million associated** to AMR)

- On average, antibiotics begin to face resistance challenges within **just ~5 years** of entering the market.
- Most newly developed antibiotics are derivatives of existing drugs, increasing the **risk of cross-resistance**.
- This leads to longer treatment durations, higher healthcare costs, and an approximately **200% increase in mortality**.

What we need from the next generation of antibiotics?



1) **Efficacy** against **multidrug-resistant (MDR) bacteria**, with no cross-resistance to existing antibiotic classes.

2) **Novel mechanisms of action**, with a low propensity for resistance development in clinical bacterial pathogens.

3) **High selectivity and safety**, minimising host toxicity and disruption of the microbiome.

4) **Cost-effective and scalable manufacturing**, ensuring accessibility and commercial viability.

Finding a new mechanism of action (MOA) from chemistry



> 300 new **chemical** activities
(ICN, UMR7272 **CNRS**)



> 10 Pathogenic **microorganisms**
(C3M, U1065 **INSERM)**

Combining complementary chemical strategies :
Engineering innovative chemical entities with optimised antimicrobial activity and properties, leveraging two main chemical families:

- **Azole derivatives:** Building on established antimicrobial scaffolds to explore new antibacterial activities.
- **Biguanide derivatives:** Leveraging bioactive chemical structures to develop novel antimicrobial applications.

Selecting strong clinical application from screening
For screening, every compound was tested against laboratory and clinical strains, identifying as a hit only the compounds showing a clear activity against both strains on key priority bacteria (*Escherichia coli* and *Staphylococcus aureus*), but also fungi (*Candida albicans, C. glabrata*, etc.)

ARROW platform

Hit identification

- Rational **Medicinal Chemistry** / *in silico* target-based **design**
- Compounds' **synth.** and **characterization**
- **Antimicrobial** testing (clinical pathogens)
- **Cytotoxicity** assays (~10 cell types)

Hit-to-lead

- **SAR** analys. & *in silico* **ADMET** prediction
- **Plasma prot. binding & activity impact**
- **Metabolism & DDI** (CYP450 qPCR)
- **Inflamm. profiling** (Cytok. qPCR)

Lead-Optimization

- **Preformulation** (IV, PO, SC & Topical)
- **Preliminary comparative PK** (Cmax, Tmax, T ½ ...)
- **Resistance develop.** (Spontaneous & serial passaging...)
- **Preliminary comparative PD** Peritonitis / ABSSSI

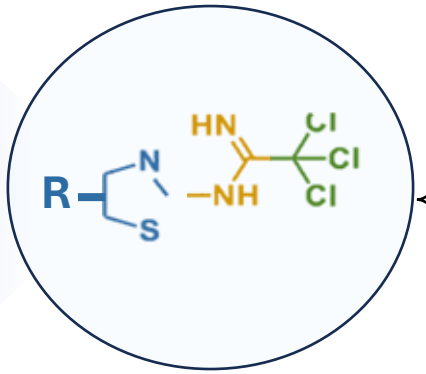
BD / Biotech POC

- **Market Study** (Competitors, market size, regul. strategy)
- **Preclinical POC** (efficacy in adapted preclinical model)
- Regulatory and Business **strategy**
- **Final TPP** (target product, reg. roadmap...etc.)

DCB001, a new structural class of antibacterials to face AMR

> 300 new **chemical** activities (ICN, UMR7272 **CNRS**)

> 10 Pathogenic **microorganisms** (C3M, U1065 **INSERM)**



DCB001
New structural class

Activity *in vitro*

Clinical MDR *Staphyloccus* **(humain)**

Clinical MDR *Staphyloccus* **(veterinary)**

Positive ADME-Tox preliminary data

(Innovation ??)

Efficacy *in vivo*

Preclinical murinee Model (mouse)

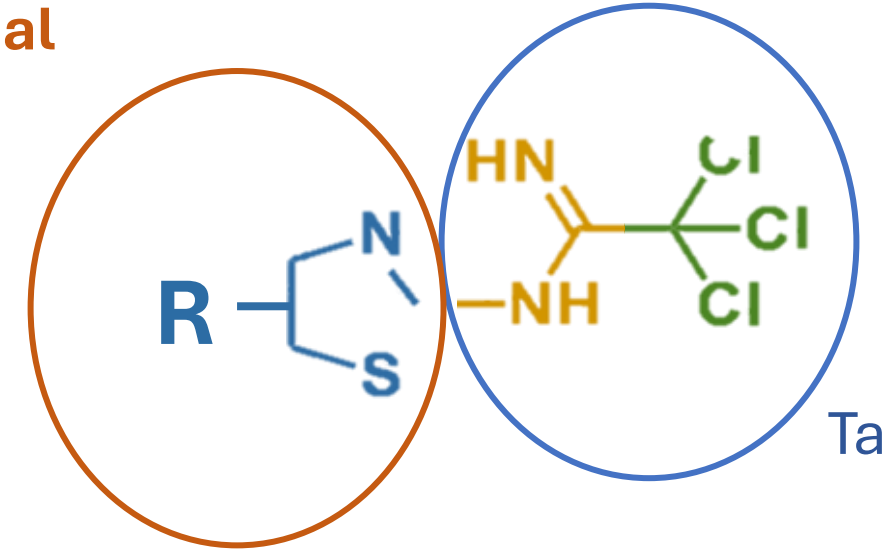
Efficacy against **MDR-MRSA**

Safety at maximal concentration

MDR : multidrug-resistant strains; **MRSA** : Methicillin-Resistant *Staphylococcus aureus*

DCB001 – Dual targeting strategy

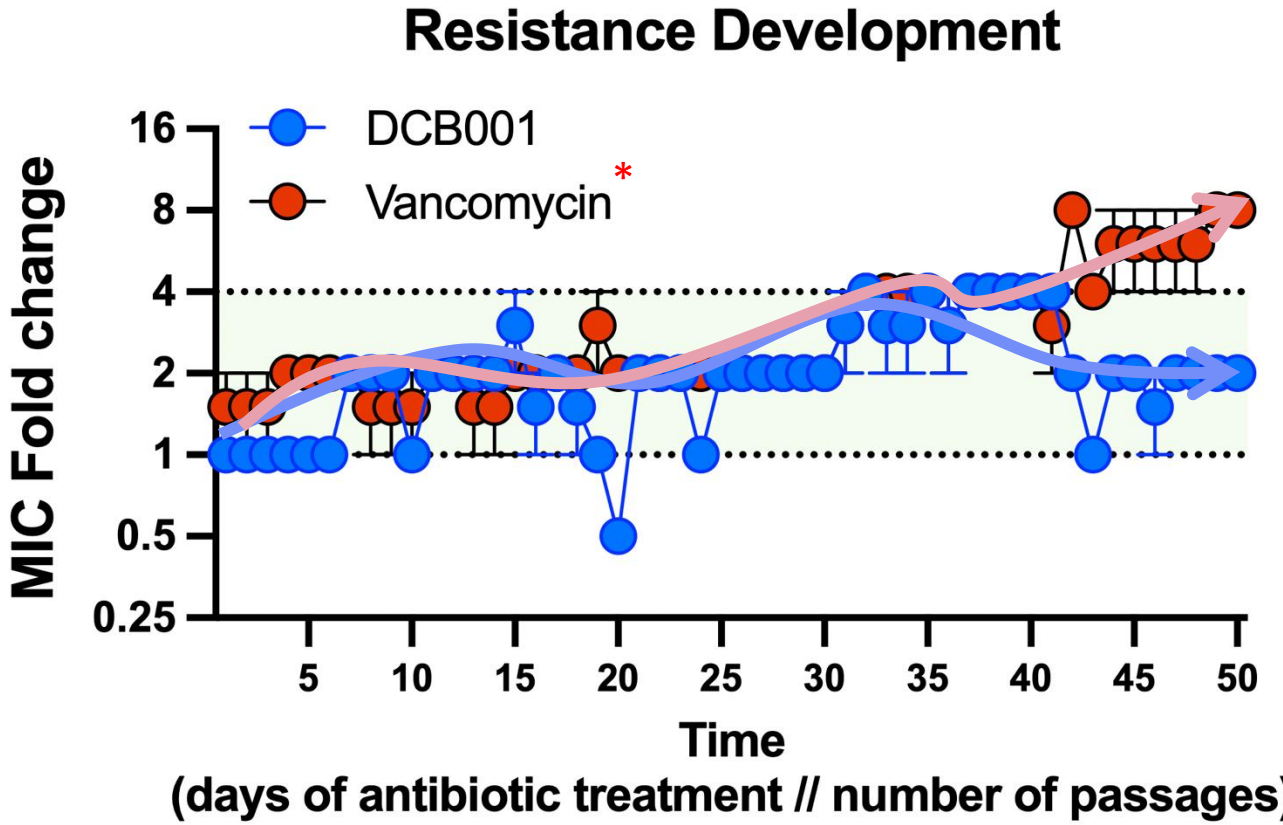
Target 2 – **confidential**

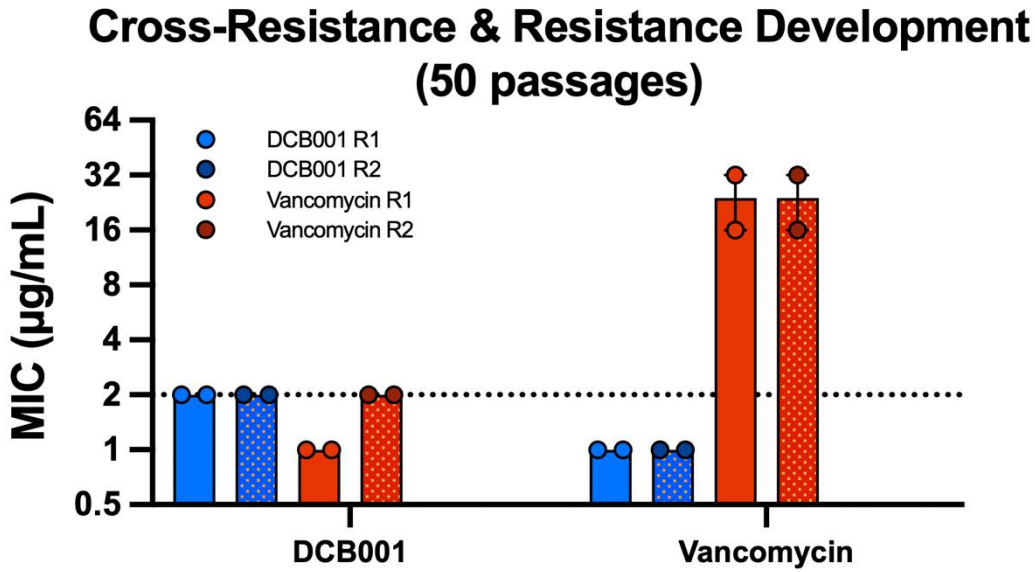


Target 1 - **confidential**

1. New structural class of antibacterial
2. New mechanism of action targeting both **structural** and **functional** essential targets
3. **Low-to-no risk of resistant development**

DCB001 – Low-to-no resistant mutants' selection

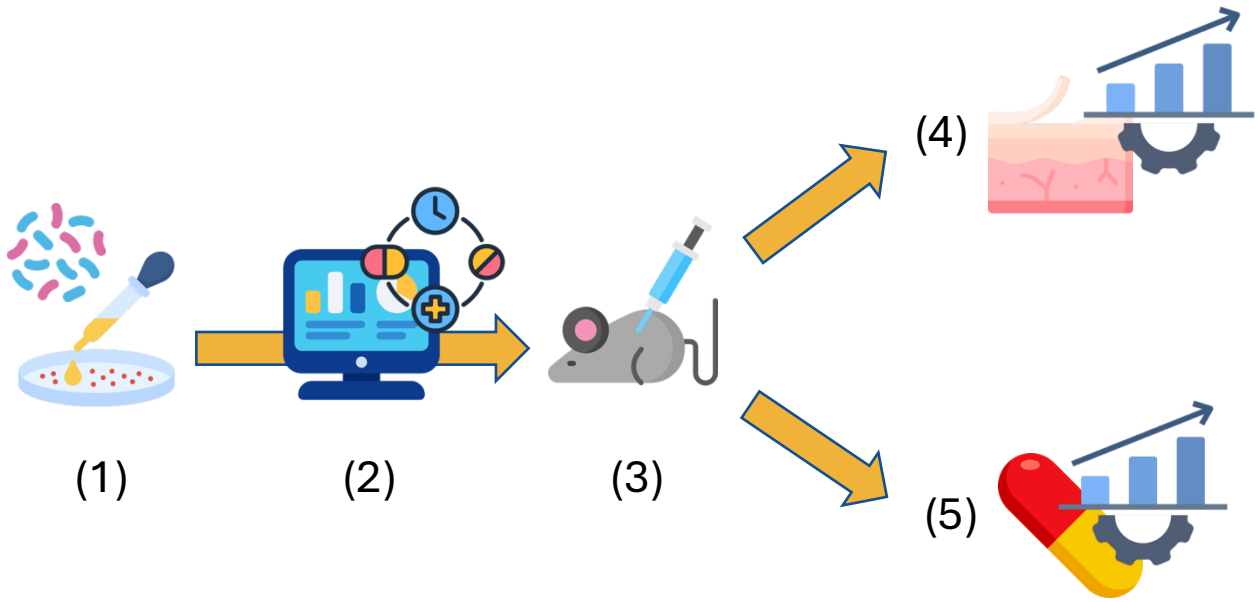




MIC : minimal inhibitory concentration

**** Reference case*:** Vancomycine (1958), first resistant mutant selection in hospital conditions (VRSA) reported 30 years post AMM.

DCB001 – Our first Strategical POC Program



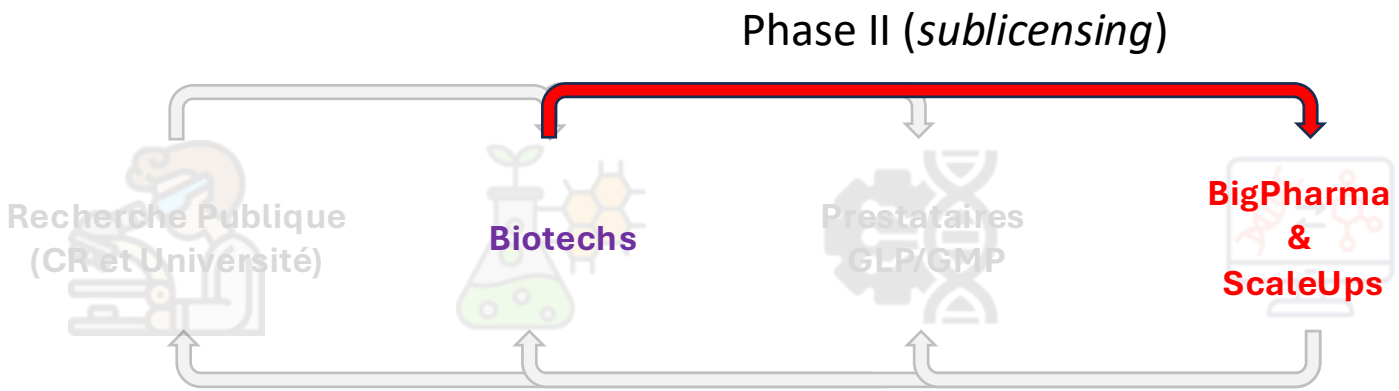
DCB001: Topical candidate against superficial skin infection and nasal decolonization

DCB005: Oral antibiotic candidate against systemic and serious localized bacterial infection

(1) Proof-of-concept *in vitro* (clinical multidrug-resistant strains)
(2) Early ADME-Tox studies (*in vitro* & *in vivo*)
(3) Proof-of-concept *in vivo* (clinical multidrug-resistant strains)

(4) Optimization : Improved topical release and penetration
(5) Optimization : systemic PK/PD profile & Potential expansion to Gram-negative pathogens

Business Model – Phase II



MOA ID → **LO/Pre-IND-enabling** → **IND-enabling** → **Phase I/IIa**

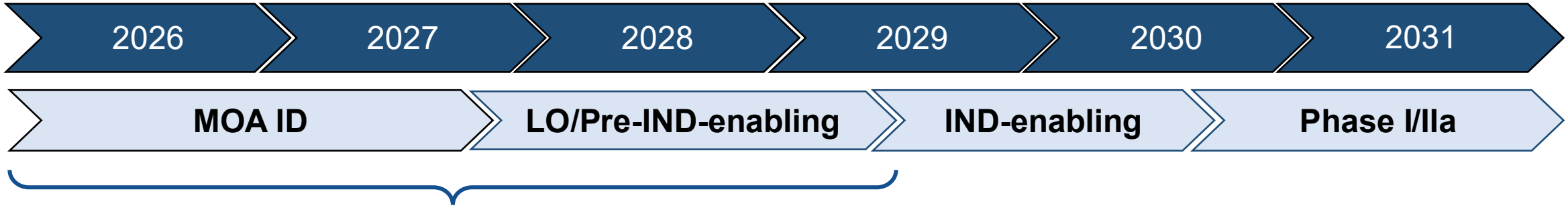
New therapeutical strategy	R&D **Valorization**	**Non-clinical MVP**	**Clinical MVP**
→ **Scientific and clinical interest**	→ Business **potential**	→ Validated (**GLP/GMP**)	→ Validated (**GCP/GMP**)

Innovation & Protection (Patent, Industrial Secret, etc.)

TRL3-4 Laboratory/preclinical proof-of-concept (POC)	**TRL5-6** Preclinical	**TRL7** Clinical POC

MOA : mechanism of action; **ID :** identification; **LO** : optimization phase (lead optimization); **IND :** authorization to go under clinical phase (IND = CTA in Europe)

DCB001 Funding/Development Strategy (2026-2029)



MOA **+** Optimization **(+600K€)**

SAR studies **(+20K€)**

Pre-formulation (+300K€)

Early **PK (+20K€)**

ADME-Tox *in vitro* **(+60K€)**

+ € ~1M

- Obtained (subvention)
- Obtained (credit)
- To be obtained (private equity/subvention)

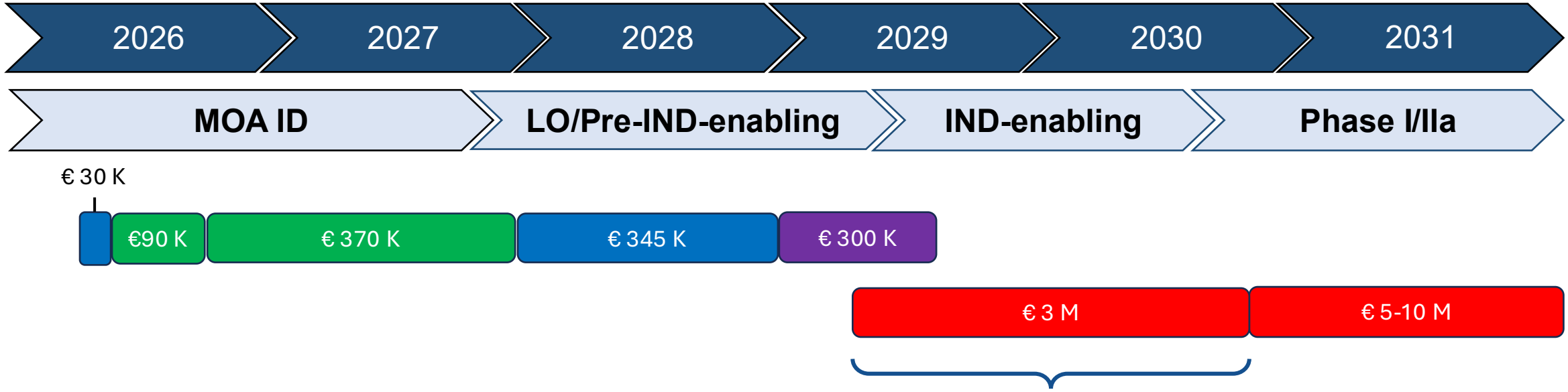


It is **required to consolidate lead optimization** and bridge with IND-enabling tests

→*from preclinical to clinical validation*

PK : pharmacokinetics ; **SAR** : structure-activity relationship; **ADME-Tox** : pharmacological studies;
MOA : mechanism of action; **ID :** identification; **LO** : optimization phase (lead optimization); **IND :** authorization to go under clinical phase (IND = CTA in Europe)

DCB001 Funding/Development Strategy (2029-2031)

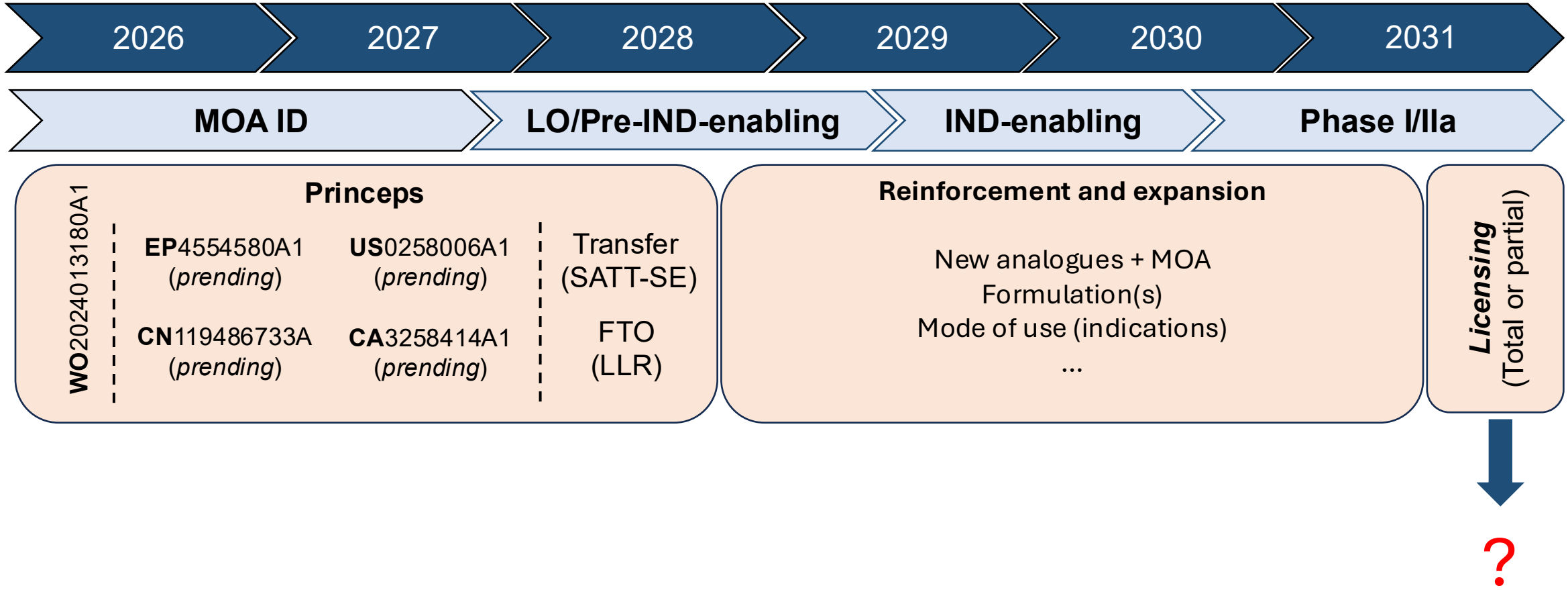


Private equity (BA, VC, CVC, etc.)
Public subvention (cofunding)

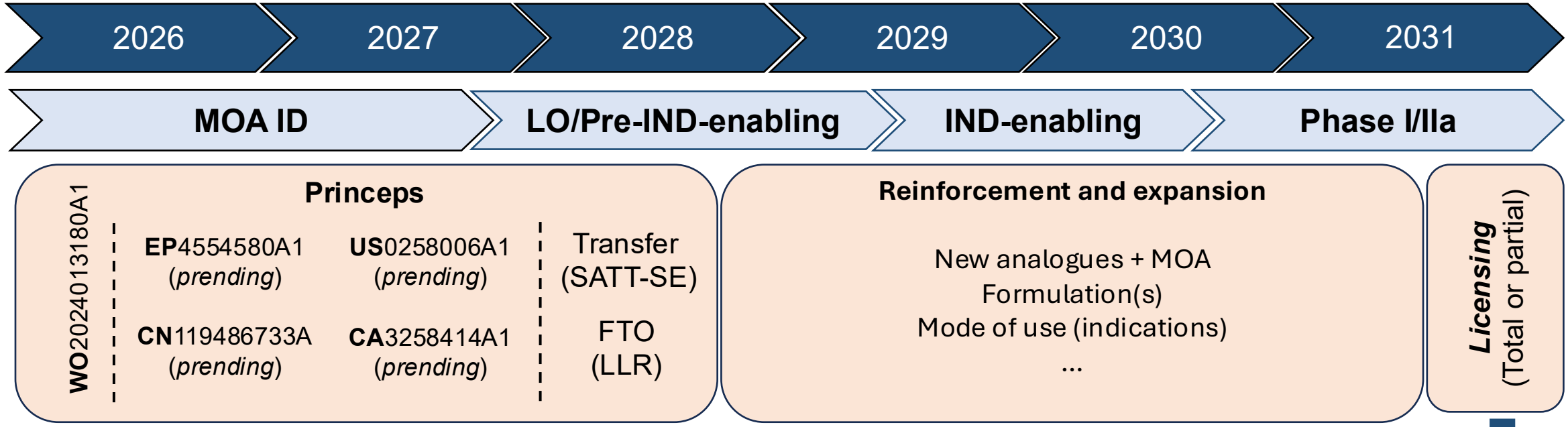
- France: ANR, ANRS, etc.
- Europe: EIC, ERC, Horizon, etc.

IND-enabling tests
CMC (DS + DP): 800K€
Advanced pharmacology: 600 K€
Tox/Safety: 1M€

IP Strategy DCB001



Projected deal size : Clinical Phase II POC

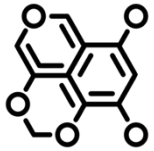


Date	Buyer	Target	Type (most advanced program)	*Upfront*	Full size
2024	Basilea Ph.	Spexis	Asset (Preclinical)	**$2.3M**	**$2.3M**
2023	Shionogi	Qpex	Full company (Ph1b)	**$100M**	**$140M**
2022	GSK	Spero	Asset (Ph3)	**$66M + %**	**N/C**
2022	Innoviva	Entasis	Full company (Ph3)	**N/A**	**$113M**

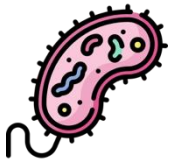
Upfront: $**10M**
+ Milestones: $**100M**
Total : $**100-150M**

DimiCare Biotech® - Our long-term vision

2020-2022
(TRL1-2)



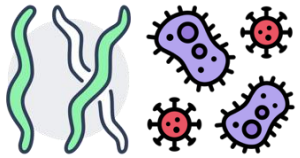
2022-2025
(TRL3)



2025-2027
(TRL4)



2027-2037



New structural class
(***Patented***)

Novel MOA
Efficacy against MDR

2028-2034

(TRL5-8)

(2034-2036) DCB001: First-in-class compound targeting superficial skin infection and nasal decolonization.

(2040-2050) Next generation of antimicrobials designed to avoid drug resistance from a One Health vision.

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Fighting Antimicrobial Resistance
From the
Biological EmergencY
Opportunistic and Neglected Diseases

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