



HAL
open science

ABRomics - an open access online platform on antimicrobial resistance to store, integrate, analyze and share multi-omics data

Julie Lao, Pierre Marin, Romain Dallet, Fabien Mareuil, Alix De Toisy, Kenzo-Hugo Hillion, Aurélien Birer, Nadia Goué, Richard Bonnet, Etienne Ruppé, et al.

► To cite this version:

Julie Lao, Pierre Marin, Romain Dallet, Fabien Mareuil, Alix De Toisy, et al.. ABRomics - an open access online platform on antimicrobial resistance to store, integrate, analyze and share multi-omics data. FEMS 2023 European Congress of Microbiology, Jul 2023, Congress Center Hamburg Hamburg, Germany, Germany. hal-04369134

HAL Id: hal-04369134

<https://hal.science/hal-04369134>

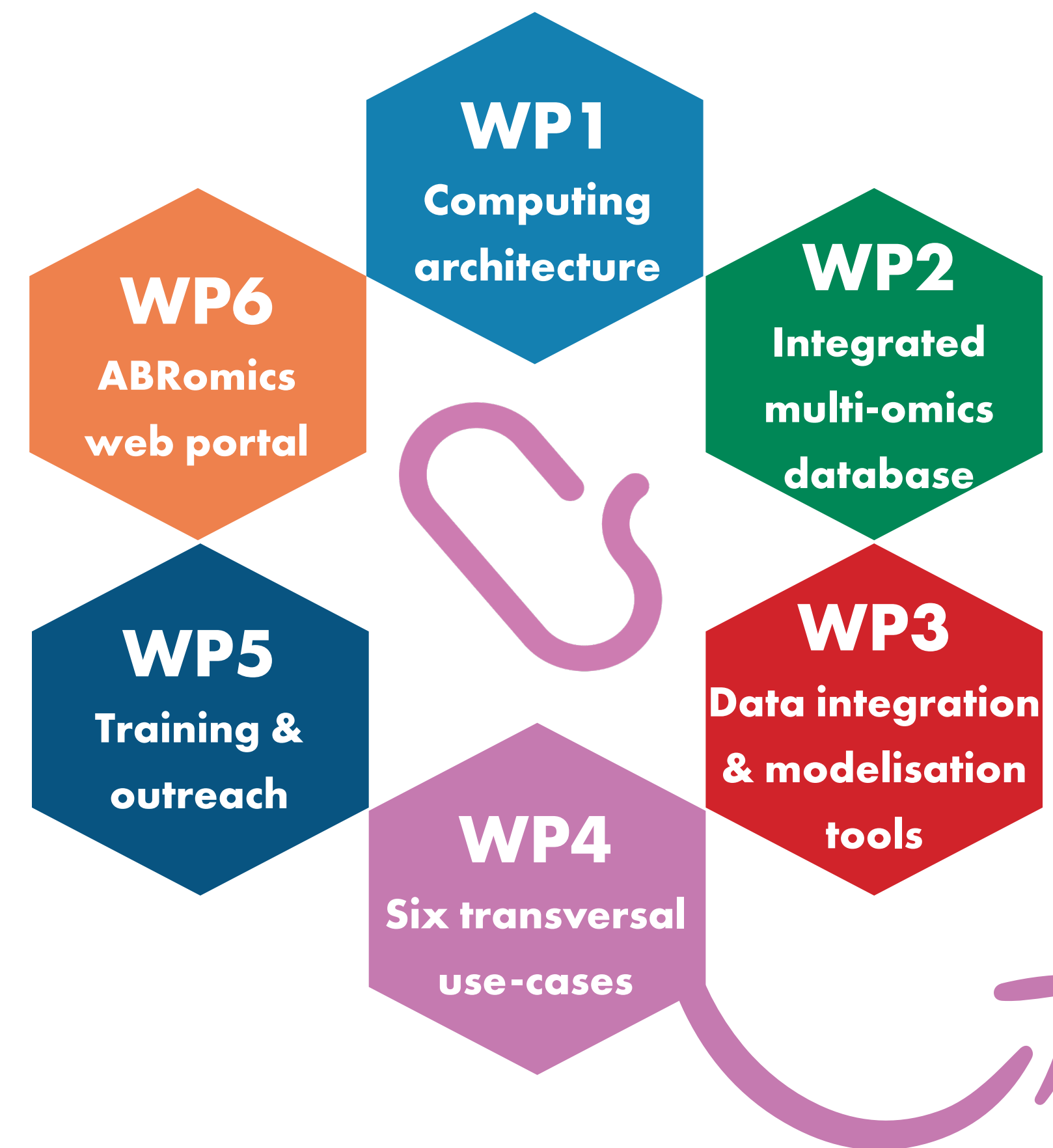
Submitted on 4 Jan 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

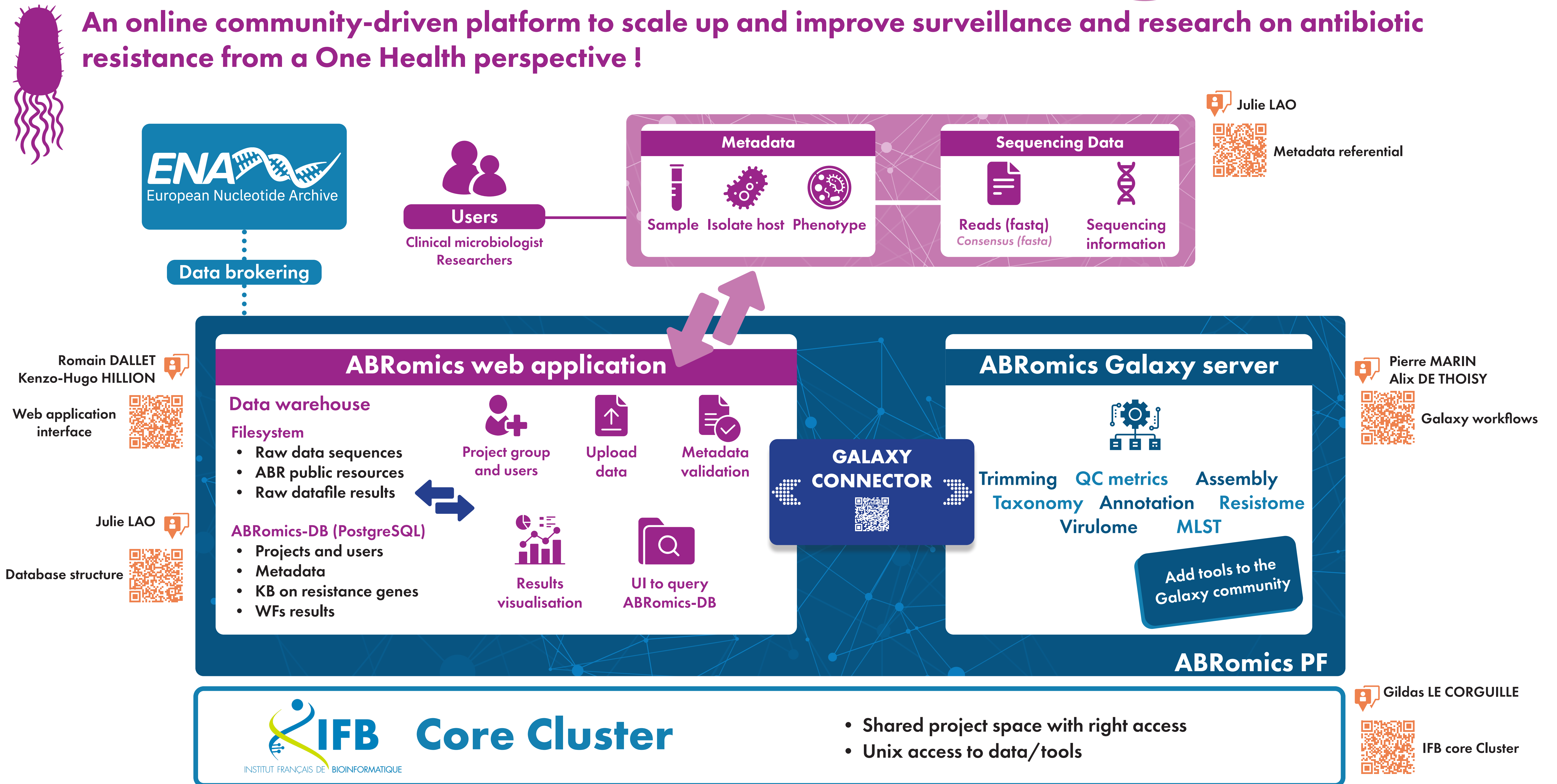
Antibiotic Microbial Resistance (AMR) is a major public health issue prioritized by international institutions. Funded by the French Priority Plan on antibioresistance (2M€; 2021-2025), we are developing a shared platform to assist AMR surveillance across human and veterinary medicine, including environmental and food isolates. It is made of :

- a repository of structured, interoperable, standardized and well-annotated multi-omics microbiological data from human, animal and environmental origins
- with an up-to-date arsenal of mathematical and bioinformatic tools to answer generic and specific research questions related to AMR.

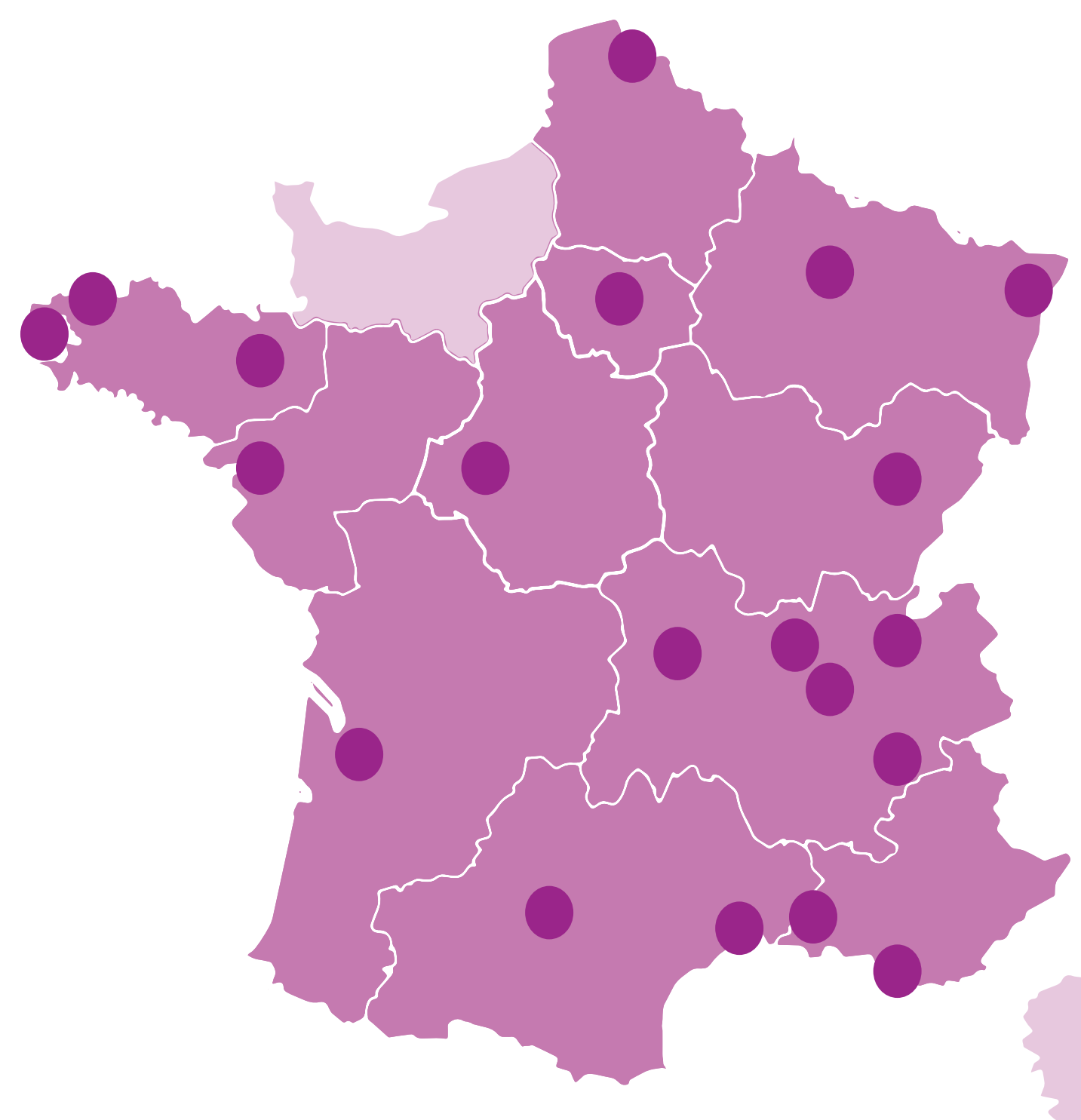
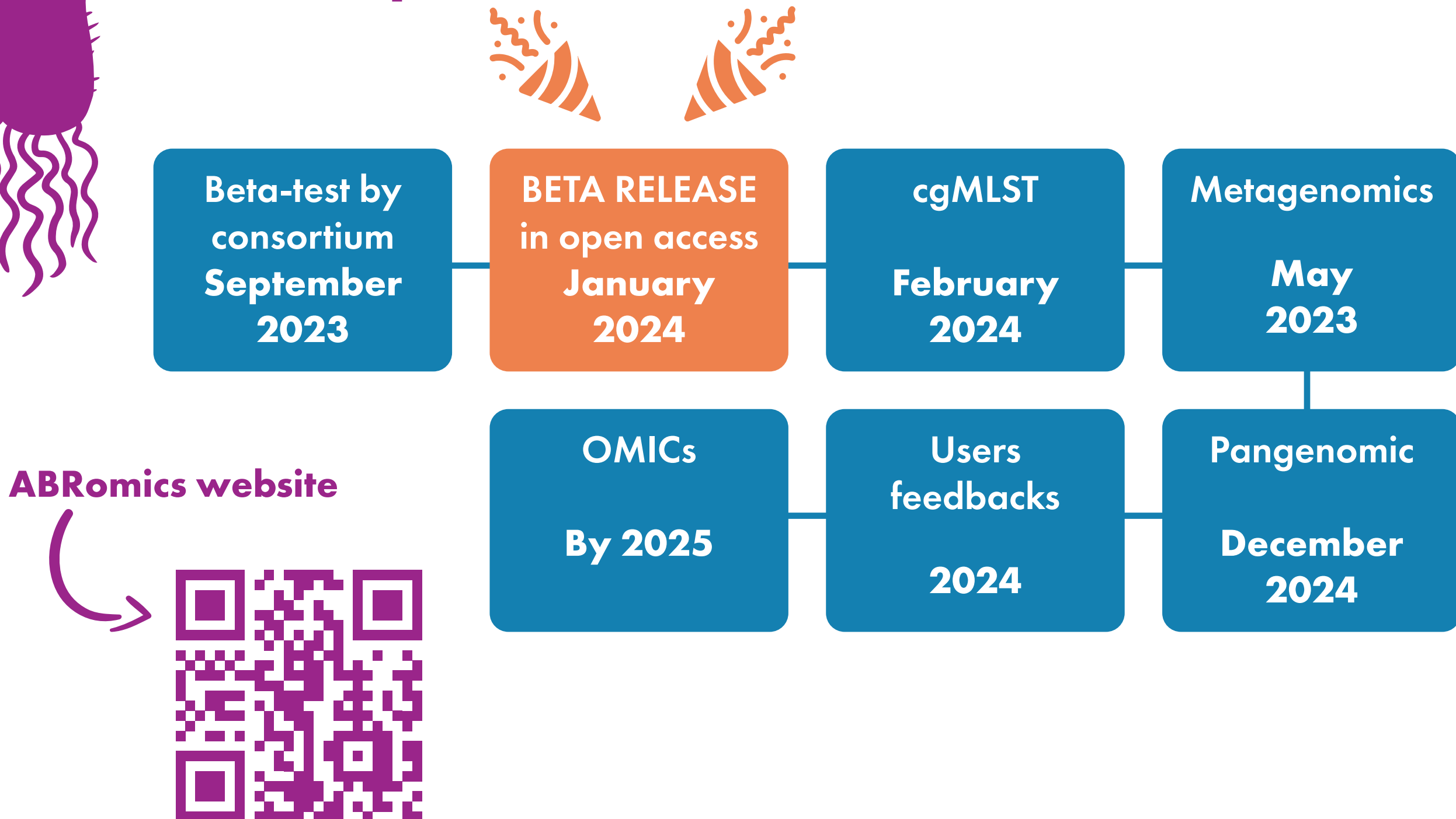


- 1 Multidrug resistant bacteria
- 2 One Health approach
- 3 Meta-pan genomics for tracking AMR
- 4 AMR in pulmonary infection
- 5 AMR dissemination through aquatic env.
- 6 Proteomics for AMR phenotyping

An online community-driven platform to scale up and improve surveillance and research on antibiotic resistance from a One Health perspective !



Next steps !



ABRomics consortium

- Effort at the national level : 43 research teams and platform!
- Multidisciplinary consortium
- Includes all National Reference Centers for antibiotic resistance
- Coordination by the French Institute for Bioinformatics (Claudine Médigue) and Institut Pasteur (Philippe Glaser)

1. CNRS, Institut Français de Bioinformatique, IFB Core, UAR 3601, Evry, France
 2. AuBi platform, Mésocentre, Université Clermont-Auvergne, 63170 Aubière, France
 3. Université Paris Cité and Université Sorbonne Paris Nord, Inserm, IAME, 75018 Paris, France
 4. Faculté des Sciences et Techniques, Université de Nantes, 44000 Nantes, France
 5. CHRU de Clermont-Ferrand, 58 rue Montalembert, 63003 Clermont-Ferrand, France
 6. Institut Pasteur, Université Paris Cité, Bioinformatics and Biostatistics Hub F-75015 Paris, France
 7. Sorbonne Université/CNRS, FR2424, ABiMS, Station Biologique, 29680, Roscoff, France
 8. Consortium ABRomics
 9. Institut Pasteur, Unité EERA, CNRS UMR604, 75015 Paris, France
 10. CNRS UMR8030, Université Evry-Val-d'Essonne, CEA, Genoscope, LABGeM, Evry, France