Toni Andreu – Scientific Director, European Infrastructure for Translational Medicine (EATRIS)



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EATRIS, the European Infrastructure for Translational Medicine, is an EU-funded program that facilitates scientific collaboration amongst public institutions from 14 member states. Its scientific director, Dr Toni Andreu, explains how the organisation coordinates a network that helps European researchers access public facilities in other countries. A former general director of Spain's Carlos III Institute of Health, Dr Andreu reveals why EATRIS remains disease agnostic, working with 140 affiliated public research institutions, all of them public institutions that work in the field of translational medicine.

Dr Andreu, could you start by introducing your scientific background, experience in translational research, and how you became involved with the European Infrastructure for Translational Medicine (EATRIS)?

I am a medical doctor from the Autonomous University of Barcelona (UAB) and did my PhD in Clinical Biochemistry in Columbia University and UAB many years ago.

My interest has always been the area of neuromuscular disorders, the genetic mechanisms that determine the manifestation of diseases, and also translational research to develop solutions for patients suffering from neuromuscular diseases, in particular mitochondrial diseases, which is a specific subgroup. That interest gave me the opportunity of working across the entire translational

pipeline.

Personally, I believe the role of research and innovation in healthcare has always been to use science to develop solutions that address unmet medical needs. This was my main area of interest for many years but, at some point, I was asked by the Spanish government to lead one directorate of the Carlos III Institute of Health; the department in charge of the institution's funding program the Health Research Fund (*Fondo de Investigación Sanitaria*). That experience helped me get involved in policy making, helping to build the country's health research and innovation roadmap.

After a year and a half, I became the general director of the Carlos III Institute of Health, a governmental body responsible for a wide range of activities in the fields of research, innovation and public health. I went back to Catalonia after a few years to become the CEO of Bellvitge University Hospital, one of the largest of its kind in Spain. Soon after, I was recruited by the Catalan Ministry of Health to set the general directorates for their research and innovation activities.

Having worked for many years in active research and policy making, I had the opportunity to join the European Infrastructure of Translational Medicine (EATRIS) in January 2018 where I have served as scientific director. My main responsibility is coordinating the organisation's scientific strategy and activities.

Can you explain the role of EATRIS as a promoter of translational research in the continent, its legal status, and the general way in which the organisation operates?

EATRIS is part of the European Commission's (EC) Research Infrastructure, a program created a few years ago in cooperation with member states to use the already existing scientific research and innovation capacities in public institutions, creating a network, and facilitating access to the facilities for European researchers. For example, if a Bulgarian researcher needs a specific facility located in Norway, EATRIS creates a workflow to facilitate access.

We are an independent organisation created by the EC and owned by Member States. Our board of Governors are governmental representatives of the 14 states that decided to participate; most of them represent ministries of science, education, or health.

The EC recognises us as a European institution, an independent legal entity. Every government that decides to join EATRIS chooses those institutions that they believe are important from a strategic perspective. As a result, we have under our umbrella 140 affiliated public research institutions that includes universities, academic research centres, and university hospitals that

work in the field of translational medicine.

We are completely disease agnostic, providing services to accelerate translational medicine in Europe through facilities across the entire translational pipeline. Our organisation conducts many educational programs, collaboration projects with the industry, including pharma and biotech, that are coordinated by a coordination office that sits in Amsterdam. At an operational level, there are 140 institutions, each of them with assets and research facilities that are divided by five thematic platforms.

Could you expand on those five thematic platforms and how they help EATRIS remain disease agnostic?

The five platforms are small molecules, ATMPs, vaccines and immunoprofiling, biomarkers, and imaging and tracing. We are labelling our research assets and facilities as disease agnostic that are essential to progress the findings of science and convert them into solutions. The main value chain could be simplified as the process of drug development, which has been the main interest of the organisation.

EATRIS participates in several European projects, for example, two weeks ago we were granted the responsibility of coordinating a EUR 24 million project under Horizon 2020 that aims to create a European platform to repurpose drugs.

Can you walk us through the process followed by research institutions in Spain to join EATRIS and how they stand out from those in other countries?

The government of each member state is the one in charge of selecting which public institutions apply to participate with EATRIS. In Spain, we have around 20 affiliated institutions, making the country one of the top member states in a range of KPIs. Spain is an extremely active country for two reasons: first, because it played a key role in the creation of EATRIS; and second, because the profile of the country’s institutions is a great fit for us.

The Carlos III Institute of Health, which represents the Kingdom of Spain in EATRIS, decided from a strategic perspective that affiliated institutions had to be accredited under their Health Research Institutes Program, a program for research bodies linked to university hospitals in the country. That element means that all Spanish institutions in EATRIS are committed 100 percent to translational

research, aiming to go beyond the discovery stage.

In the last few years, Spain became aware that it was important to create a link with other active research strategies in the continent, choosing EATRIS as a bridge. The country has been heavily involved with European projects. One good example is EU-PEARL, an IMI project coordinated by the Vall d'Hebron Institute of Research (VHIR), which aims to create a European framework for developing platform clinical trials.

If a Spanish institution approaches EATRIS with an initiative, a great idea that could be transformed into a global effort, we try to facilitate the process and connect them with stakeholders that we believe are a good fit. Alternatively, if our central office detects an opportunity in another country, we open internal calls encouraging people to become involved. Spanish groups are always eager to participate in continental initiatives.

New EU funds going to Spain have been touted as an opportunity to advance research in advanced therapies. How do you assess the opportunity for the country? Which advanced therapies better match the capabilities available at Spanish public research institutions?

This is a great opportunity for Spain to bring novel therapies to the patients, such as CAR-T based novel approaches. Spain also has the capacity of efficiently interconnecting basic research with clinical research which is the key element for the development of novel therapy approaches.

The country has a leading role in Europe for translational medicine due to the efforts of the Spanish scientific and clinical research community. In the middle of the recent economic crisis, they managed to maintain a high level of research activity demonstrating its resilience and efficiency.

Furthermore, EATRIS participates in several projects that provide services across the translational medicine value chain. Specifically, EATRIS-Plus, our flagship initiative where Spanish scientists provide support in developing a multiomic toolbox for accelerating the implementation of personalised medicine

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