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## FOREWORD AND CNIC MISSION

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The Centro Nacional de Investigaciones Cardiovasculares (CNIC) is a biomedical research center funded through a pioneering public-private partnership between the Spanish Government and the ProCNIC Foundation (composed of twelve Spanish companies unrelated to the biomedical sector). The CNIC also benefits from the external support of its Scientific Advisory Board, composed of leading international experts who provide guidance on strategy and regularly assess the performance of the Center and its group leaders.

Cardiovascular disease (CVD) is the principal cause of death worldwide, and the exponential increase in the cost of treating CVD in its symptomatic phase places an insurmountable burden on patients, families, and health systems. In response to this challenge, the CNIC has defined three major goals: to increase the understanding of cardiovascular health, to improve disease prevention, and to generate treatment advances for the prevalent manifestations of CVD. These goals require mechanistic studies to gain insight into the molecular and cellular processes underlying disease, coupled to the translation of these findings into improvements in health promotion, diagnosis, and disease management.

To meet these challenges, the CNIC is moving from a research organization based on three broad research areas to one comprising seven highly focused and integrated programs: (1) novel mechanisms of atherosclerosis, (2) myocardial homeostasis & cardiac injury, (3) cardiovascular regeneration, (4) novel arrhythmogenic mechanisms, (5) CVD, risk factors & cognitive function, (6) cardiovascular health promotion, and (7) technology development. These programs span from basic research to advanced health-changing clinical trials and build on the CNIC's deep-rooted and proven expertise in state-of-the-art technology, cellular and animal models, imaging modalities, and large-scale data gathering and analysis.

Despite the difficulties that affected all organizations during the COVID-19 pandemic, the CNIC was able to maintain and consolidate its status as world-leading cardiovascular research center and currently has more

than 400 researchers and more than 200 visiting scientists.

Major discoveries in 2021 include the identification of ALDH4A1 as a potential diagnostic and therapeutic target for CVD and of the micro RNA miR-721 as the first blood biomarker allowing myocarditis to be distinguished from acute myocardial infarction.

Another landmark event in 2021 was the second renewal of the CNIC's status as a Severo Ochoa Center of Excellence, securing a third round of funding under this program. 2021 was an exceptionally successful year in terms of institution funding, with €6m granted for major infrastructure investments that will ensure the provision of state-of-the-art technologies at the Center. Competitive external project funding totaled €15m, with a substantial share of this coming from international grants.

The Center's eleven large translational studies, including several randomized clinical trials, have already changed clinical practice worldwide. These studies bear testimony to the enthusiastic commitment of researchers, healthy volunteers, patients, and emergency service personnel to defining the causes and risk factors of CVD. This commitment of citizens and professionals outside the research community is making essential contributions to advancing the use of noninvasive imaging technology for diagnosis and research.

Through these endeavors, the CNIC is making a comprehensive, across-the-board investment for societal benefit that integrates biomedical research into the wider society. This is fitting, since we are all stakeholders in our health and in the health of the next generation. As we move forward, the CNIC will maintain the drive and focus established in its initial phases and ensure that the Center's basic and clinical scientists continue to work closely together to devise innovative projects that help reduce the health and socioeconomic burden associated with CVD and to train the researchers of the future.

