



# ***PARE***

**PERSPECTIVES FOR AERONAUTICAL RESEARCH IN EUROPE**

## **Perspectives for Aeronautical Research in Europe 2019 Report**

**Executive Summary**

**Final Report**



[www.pareproject.eu](http://www.pareproject.eu)

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# Executive Summary

The principal aim of the project PARE (Perspectives for Aeronautical Research in Europe) is to consider the progress made towards the achievement of each of the 23 Flightpath 2050 goals defined by ACARE and make recommendations on how to close the remaining gap.

The PART I of the PARE Report is thus structured in the five chapters that mirror the ACARE overarching aims: (Chapter 2) Meeting Societal and Market Needs; (Chapter 3) Maintaining and Extending Industrial Leadership; (Chapter 4) Protecting the Environment and the Energy Supply; (Chapter 5) Ensuring Safety and Security; (Chapter 6) Prioritising Research, Test Facilities and Education. Within each of these chapters, the relevant ACARE goals are considered in detail using past progress and current status as the precursors to the possible future evolution.

In consonance with the call for proposals the PARE project also addresses five special focus areas, corresponding to the chapters in the PART II of the report: (Chapter 7) Aircraft Markets; (Chapter 8) Emerging Aviation Technologies; (Chapter 9) Cooperation beyond Europe's Borders; (Chapter 10) Attracting Young Talent; (Chapter 11) Increasing the Participation of Women. The methodological approach adopted in PART I applies equally well to PART II taking the past and present as precursors to the future.

In response to a request from the European Commission, the PARE Project prepared a set of recommendations for Aeronautics Research in the forthcoming Framework Program FP9 "Horizon Europe". Each recommendation consists of the following items: (i) statement of the recommendation; (ii) rationale as brief explanation; (iii) stakeholders able to contribute to implementation; (iv) relevance as concerns potential impact; (v) priority on a scale with 4 levels; (vi) justification in detail by reference to the PARE Report. The 58 PARE Recommendations for Aeronautics Research in Horizon Europe consist of two sets: (i) the first 23 Recommendations concern the ACARE goals as a comprehensive set of vertical integration aims for the European Aviation; (ii) the last 35 Recommendations concern 35 PARE Objectives as a complementary set of horizontal initiatives supporting the aviation sector. Some of the PARE Recommendations have multiple items leading to 68 Priorities. The PARE Recommendations provide a good summary of the PARTS I and II of the PARE Report and are included in the Introduction (Chapter 1) as a precursor.

The PARE project produces yearly reports, with the 1<sup>st</sup> Year Report consisting of the PARTS I and II. The 2nd Year Report not only revises and update the 1<sup>st</sup> Year Report, but starts a PART III with three detailed case studies addressing subjects of major interest: (Chapter 12) The Evolution of the Chinese Aircraft Industry; (Chapter 13) The Boeing MMA Prospects; and (Chapter 14) The Two Boeing 737 Max Accidents.

The PARE Recommendations for Aeronautical Research in Horizon Europe are the basis of an illustrated brochure as a concise dissemination of PARE Results among the professional community. Since aviation serves the citizen it is equally important to inform the general public and the decision makers. With this objective, the PARE Project produces a set of articles, corresponding to the chapters in the PARE Report, and reporting using a language accessible to the non-specialist. Each article



reports on “Key Findings”, which suggest “Key Actions”, preceded by an introduction and followed by a conclusion.

The ensemble of PARE Articles may be collected in a brochure “PARE findings and actions on aviation challenges and developments in Europe” as a non-specialist counterpart to the brochure of the “58 PARE Recommendations for Aeronautics Research in Horizon Europe”.

Likewise, the inclusion of the PARE Recommendations in the Introduction (Chapter 1) of the PARE Report mirrored by the inclusion of the PARE findings and actions in the conclusion (Chapter 15). The conclusion addresses: (i) the methodology to continue the PARE Yearly Reports beyond the end of the project; (ii) the exploitations of the same methodology to assess progress in other sectors like space, automotive, rail, shipping; (iii) a similar possibly also apply to other technological sectors that contribute to aviation, and have other applications like materials, electronics and systems.

