

TOWARDS A WELL-ROUNDED AND FORWARD-LOOKING STRATEGY FOR KDC

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[KDC Research Agenda](#), [FerWay](#), [Netherlands Aerospace Centre](#)

The task of KDC is to develop sustainable solutions for Mainport Schiphol by defining and implementing targeted projects in close collaboration with the air transport sector and government. These efforts are guided by the KDC Research Agenda, which details active projects and proposed research initiatives. The agenda serves as a tool for the board to monitor project status and progress, set priorities among projects, and maintain a clear overview of key research questions.

In the beginning of 2024, the KDC management team organized expert team sessions to discuss the current state of the KDC agenda and find ways for further refinement to maximize its impact. Experts from the Netherlands Aerospace Centre and FerWay were tasked with supporting the management team in that effort by accessing and leveraging knowledge from the KDC document repository, as well as the repository of theses of the KDC Centre of Excellence. The aim was to bring focus to the KDC program and to define new research assignments that align seamlessly with the new structure. The starting point for the new structure was the current landscape in which Schiphol operates. This landscape is characterized by uncertainties surrounding its growth potential, climate challenges, a shortage of air traffic controllers, who are essential for innovating operations and simplifying the role of air traffic control, and predictions for the near future that anticipate the emergence of new airspace users and emphasize new safety challenges.

As a consequence of this starting point and a deep analysis of the existing research knowledge, the expert team proposed an adapted structure for the KDC Research Agenda containing the following focus areas:

- Safe Airspace and Airport Navigation
- Environmental sustainability
- Airline and Airport Operational Efficiency
- Capacity Management
- Airspace Redesign & Innovation

While it may have been possible to add more focus areas, such as UAS, Human Factors or Civil-Military integration, it was decided to group these important topics under the five mentioned basic categories, as these describe the major future challenges for Schiphol.

Each of these challenges is linked to a clear research aim. For safe airspace and airport navigation, it will be necessary to reach a new level of safety performance that enables a transition towards trajectory-based operations (TBO) and structured planning. This requires a thorough adherence to European developments and implementation strategies. One of the major changes in the agenda is that projects addressing environmental sustainability are now identified more clearly which is expected to lead to more visible and transparent results in that particular focus area. Airline and airport operational efficiency has always been one of the main pillars in KDC studies. While this remains unchanged, a clear focus has now been established on promoting sustainable ground movements. Another foundation

for the future challenge of transitioning towards TBO is the development of multi-stakeholder capacity management processes. This has been underemphasized within KDC research activities in recent years. Finally, alignment with the Dutch Airspace Re-design Programme (DARP) has been sought by defining the KDC focus area for Airspace Re-design and Innovation. There is a strong expectation that this alignment will lead to better synergy between DARP activities and related KDC research.