Airfield pavement design and management is a core expertise we have provided to numerous airports around the World. We would like to welcome you as our client and optimise your pavement asset management, improving your operations and saving you money.

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WWW.AIRPAVE.RAMBOLL.COM
AirPave is an airfield pavement management system developed through collaboration between Ramboll and Copenhagen Airport.

Experience at major airports has shown that use of AirPave provides savings of around 30% on cost of airfield pavement maintenance over time.

AirPave is a system that can be used by both technicians and managers to assist them in their daily work. It provides a wide range of management tools ranging from detailed engineering calculations to reports ready for board-level presentation.

**System Description**
AirPave is an integrated pavement management tool including a Pavement Database, Management System and Geographic Information System.

In the Pavement Database relevant information on the pavements is managed. This includes pavement geometry, inventories, structure, condition surveys, loadings etc. In the Management System the information stored in the Pavement Database is used to assess present pavement condition, as well as future deterioration in the condition. Based on user-defined maintenance and rehabilitation strategies the economic and technical consequences are computed.

Information can be viewed in a number of predefined ready-to-print reports, including tables, figures and graphs. To give an even more powerful presentation of the many and often complex results, AirPave is embedded with a Geographical Information System (GIS) which shows information from the Pavement Database and Management System. This integration enables the user to access most information through GIS.

Data in AirPave can also be accessed through an internet browser which provides quick access to data for users who are less familiar with the system, including graphs and GIS maps.

**Cutting-edge Communication Technology**
AirPave incorporates applications designed to facilitate the visual inspection of pavements and documentation of the distresses observed. This can be done with smart-phones or tablets with internet access. Once an inspection has been carried out, or a picture taken, the information is submitted to a web-server. In this way distresses observed on the pavement can be photographed with a smart-phone and made available via AirPave to other airport personnel within minutes.

AirPave can be run as a client-server installation, and also as a web-application where no computer installation is required. The web-interface has been developed with special focus on management in your airport; hence it is easy to access and output can be viewed in standard reports or in GIS. In this way only the technical ‘super users’ at your airport require the system to be installed on their computer. Colleagues in airport management, with a username and password, can access the latest information on pavement condition and maintenance requirements via the internet.

**Benefits**
AirPave is a valuable tool to both technical and financial managers at the airport.

A key benefit of AirPave is its ability to facilitate long-term financial planning. It gives the user a unique overview of the maintenance and rehabilitation funds needed at the airport in the coming years. Importantly it also enables the Airport Authority to avoid sudden budget shocks from unforeseen pavement maintenance and rehabilitation works.

The AirPave system enables pavement maintenance planning to be carried out to meet budget restrictions, without removing the focus on the standards set by the Airport Authority. Additionally the planning of pavement maintenance works is based on actual conditions and deterioration rather than estimations, enabling reductions in funding requirements without compromising airport safety.

The benefits that can be derived from AirPave can be summarised as follows:

- Understanding and systematically recording airfield pavement conditions.
- Communicating pavement issues to others within the airport, e.g. the Board of Directors.
- Accurately targeting pavement maintenance works to optimize benefits and reduce costs.
- Documenting the risks associated with reduction in the maintenance budget.
- Better planning of pavement maintenance works, giving a stronger position in negotiations with contractors.
- Independence from team members’ subjective assessment – the best basis for managing your team.
- Use of the most advanced IT devices including smart phones, tablets etc. – facilitating cost-effective everyday behavior in your team.

**How does it work?**

**Traffic Data**
Airport traffic type & frequency of take off & landing are reported to the system.

**Pavement Data**
Pavement condition is reported to the system. Key performance indicators are tracked: frictional resistance, bearing capacity, & surface condition. Measurements are made & visual records taken & stored in the system.

**Financial Data**
Airport business data is tracked: Revenue/Cashflow/Capital are all reported to the system.

**Data Storage & Management**
AirPave system, software & databases.

**Analysis & Optimisation**
AirPave software continually evaluates all data, analysing residual pavement and financial conditions. Optimised maintenance schedules are then developed, balancing current and predicted technical & financial considerations.

**Strategy & Reporting**
Information & results delivered in Executive or Full Technical & Financial detail.

**Alternative Strategies**
Alternative strategies & maintenance timings can be also be produced.

**Action**
Maintenance & rehabilitation of pavements wherever required in line with chosen strategy.

**BENEFITS**
- Safety – ensuring a safe durable pavement at all times.
- Cost effective.
- Long term financial planning.
- Systematic collection & storage of data.

**Holistically Managed Pavement Life Cycle**
Any new maintenance works reported back into the system.

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