

## Dynatest Airport PMS

Airports and aviation authorities are becoming busier by the day, and this trend is going to increase significantly in the near future. Heavy airport traffic makes it difficult to plan and carry out pavement preservation and repair projects. Runway closures must be minimised to avoid disruption of the traffic flow. It is vital that the aviation authorities have the best tools available to quantify current pavement condition, anticipate future problems, and select and schedule the best repair strategy at the proper time.

Modern computer systems combined with technologically advanced pavement evaluation and management software can provide the aviation authority with the necessary tools to maximise pavement condition while minimising costs and traffic disruption.

**Dynatest** has developed a unique Airport Pavement Management system called **A.I.R.P.O.R.T.S.**, an acronym for **A**irport **I**nformation **R**etrieval for **P**avement **O**ptimisation **R**ehabilitation **T**reatment **S**ystem, which utilises technologically advanced mechanistic pavement performance models with the traditional distress base.

**PERS** (Performance **E**conomic **R**ating **S**ystem) was developed and has been used by **Dynatest** over a number of years in the **Dynatest Pavement Management System** for roads and is now the heart of the **A.I.R.P.O.R.T.S.** optimisation programme.



### The system can determine:

- How a particular budget influence the overall pavement condition (visually, structurally and functionally) over time.
- What budget level is necessary to maintain the current network condition and improve it.
- What budget level is necessary to maximise return in terms of, for example, cost/benefit ratio.

### The system can utilise:

- Visual PCI Data.
- Structural data from the Heavy Falling Weight Deflectometer.
- Skid resistance data.
- Functional data from the Runway Surface Profilometer®.

The budget is optimised using the PERS system, to plan the complex scheduling of rehabilitation alternatives over a defined optimisation period of 1-25 years.

Yearly work's programs can be reviewed to determine the optimum scheduling to give minimum disruption.



**PERS** has the ability to facilitate the formation and continual refinement of deterioration models, for structural, functional and visual models from historical and present data. This means the system can model different pavement types with their own specific and unique models. As additional survey data is collected the models can be verified and improved for each section. It is therefore very important to ensure the data collected is of the highest quality and is collected in the most effective and efficient way.