

# Determining the lifetime of airport runways

## The situation

A well-known Dutch airport wanted to know the **Pavement Condition Index (PCI)** and the residual constructional lifespan of a number of taxiways and platforms. The PCI is an example of a technical approach, which requires a manual examination of the pavement. The index was originally developed by the US Army Corps of Engineers, but was later standardized by the ASTM. The surveying processes and calculation methods are documented and standardized by ASTM for airport roads and sidewalks. Commissioned by NACO Airport Consultancy & Engineering, **Unihorn** has carried out investigations of the pavement and drafted recommendations. What was special about this project was the way in which the input for the PCI determination was collected. Normally this is done manually but thanks to **INSPECH** this aspect of the PCI process was automated.

## The solution

The current state of the asphalt and concrete pavements were recorded with HD video cameras and defect locations determined by GPS using a specially equipped Unihorn vehicle driven along the taxiways. Subsequently, the observable defects from the video images were identified by **INSPECH** in accordance with the criteria of the ASTM D5340-20 standard.

To determine the PCI values, **Unihorn** then built a database in MicroPaver with a section and sample unit layout. After entering the defects, the PCI values were calculated with MicroPaver.



## The answer

Thanks to **INSPECH**, the condition of the airport pavement infrastructure has been mapped out completely, quickly and in detail for both the client and the airport. In addition, **INSPECH** allows automatic comparisons between multiple inspections, enabling trend analysis and PCI forecasting per sample unit. By comparing the PCI inspection results of previous inspections with the most recent results, a prognosis for the development of the PCI value for the next 5 years has been established.