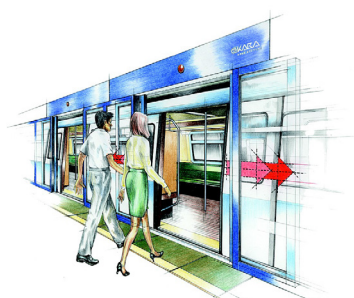


## SECTOR Railways STANDARD EN 50128

# Case Study



Kaba Gilgen AG, Switzerland



Copyright Kaba Gilgen AG

### ABOUT THE COMPANY

Kaba Gilgen AG have been manufacturing, installing and providing services for automatic doors and gate systems since 1961. In 1990 Kaba Gilgen AG brought their expertise and experience to automatic doors for public transport. They are now a leading provider of both full and half-height Platform Screen Door (PSD) systems.

The Swiss-based company have wide experience as a supplier of PSD systems for various metro lines worldwide.

***“We were able to tailor the functionality of Cantata exactly to our needs”***

### Background

Kaba Gilgen AG (Kaba) was contracted by Régie Autonome des Transports Parisiens (RATP) to upgrade metro stations in Paris with half-height Platform Screen Door (PSD) systems. The first stage of the project saw the development, production and installation of more than 10 km of platform screens, featuring up to 2,000, fully automatic, half-height PSD systems. The PSD systems were to deliver improvements to passenger safety, and to increase the transport capacity and efficiency of the metro.

### The Project

The Paris metro project presented unique challenges for Kaba's in-house team of software developers. The half-height PSD system was mechanically complex and thus needed more complex controlling software. The scale of the Paris metro also placed high demands on the software, with some platforms having the capacity for up to 18 PSD units. Crucially, RATP also required that the software and hardware meet the EN 50128 standard for SIL2.



Copyright Kaba Gilgen AG

### The Standard

The EN 50128 standard relates specifically to operational safety-critical systems in the railways industry. The standard requires evidence to be produced that proves that a system reaches the specified System Integrity Level (SIL). This involves module tests, software integration tests, hardware/software integration tests and simulated system-level tests. Although Kaba had embedded SIL2 software for the control of PSD systems, the software had not undergone the level of unit testing required for the metro project.



## EN 50128:2011 Certified

### Choosing the Right Tool

Kaba chose Cantata to help develop software in line with the standard's requirements. With the capacity to run detailed unit tests on all source files, Cantata provided the scope for ensuring the 100% code coverage required. ***"We considered other tools, but Cantata was the right solution for the project,"*** explained Application Engineer, Denis Battaglia. ***"A high level of programming knowledge is needed to adopt Cantata, but we chose the solution because it is highly customizable. We were able to tailor the functionality of Cantata exactly to our needs, and this greatly helped in meeting the customer specification for the project."***

***"Cantata enabled us  
to ensure that the  
software we  
developed could meet  
those standards"***

Kaba was provided with initial training for Cantata, and was supported with the integration of the tool into its existing set-up, which included a Fujitsu cross compiler running on an embOS operating system. When discussing the project, Battaglia said: ***"It was essential for us to meet the strict safety standards that the customer required. Cantata enabled us to ensure that the software we developed could meet those standards. We were helped with implementing Cantata into our set-up, and were provided with consulting services as the project progressed. The Cantata providers carried out around 60% of the required testing and greatly increased our capacity to complete the project. Their expertise in Cantata and software testing in general, meant this was a logical step for us. This project was not easy, and there were significant time constraints. Flexibility and integrity were important to us. We were very happy with the service provided."***

### Conclusion

The software development team at Kaba were able to adapt their existing software to meet the strict safety requirements through their own knowledge and through their investment in Cantata. Having successfully engineered the software for the Paris metro project, Kaba now has the tools and expertise to implement high-level safety software to future projects worldwide.

***"It was essential to  
meet the strict safety  
standards that the  
customer required"***

### CERTIFICATION

Cantata has been classified a **Class T2 Tool**, as usable in development of safety related software up to the highest safety integrity level (**SW-SIL 4**) as defined by the **EN 50128** standard



For information on tool certification, please visit:  
**[www.qa-systems.com/cantata](http://www.qa-systems.com/cantata)**

### MORE ON RAILWAYS SECTOR:

Our Sector Briefs provide more information on how Cantata was successfully used by relevant customers in various railway projects worldwide.

All Sector Briefs can be found on the QA Systems website

***"We were very  
happy with  
the service  
provided"***

All case study text has been approved by the relevant customer.

QA Systems acquired the Cantata business taking over all development, support and sales from IPL in March 2012. Cantata is the extension of the Cantata++ tool.