



SIEMENS

Ingenuity for life

Siemens Mobility Services (SIMOS™)

SIMOS™ Easy Obsolescence Solutions

Reliable spare parts supply throughout the entire service lifecycle

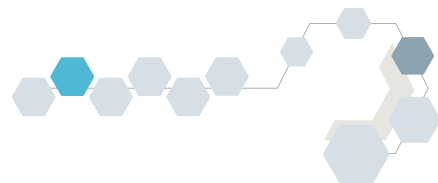
Mobility systems are long-lasting industrial goods with a planned service life up to 30 to 40 years. A supply of spare parts must be assured in the long term to preserve their ability to operate throughout this period of time. However, operators and manufacturers often cannot influence this very much. Ever shorter product life-cycles, enhancements, portfolio clean-ups, insolvencies and changing market conditions result in situations in which components become outdated and are no longer available. Such obsolescence directly jeopardizes the availability of complex systems.

Availability warranty

Siemens offers SIMOS™ Easy Obsolescence Solutions in compliance with IEC 62402 to prevent obsolescence-related downtimes and interruptions in operation as well as to avoid unnecessary costs. At the same time, we distinguish between proactive and reactive obsolescence management.

Proactive obsolescence management

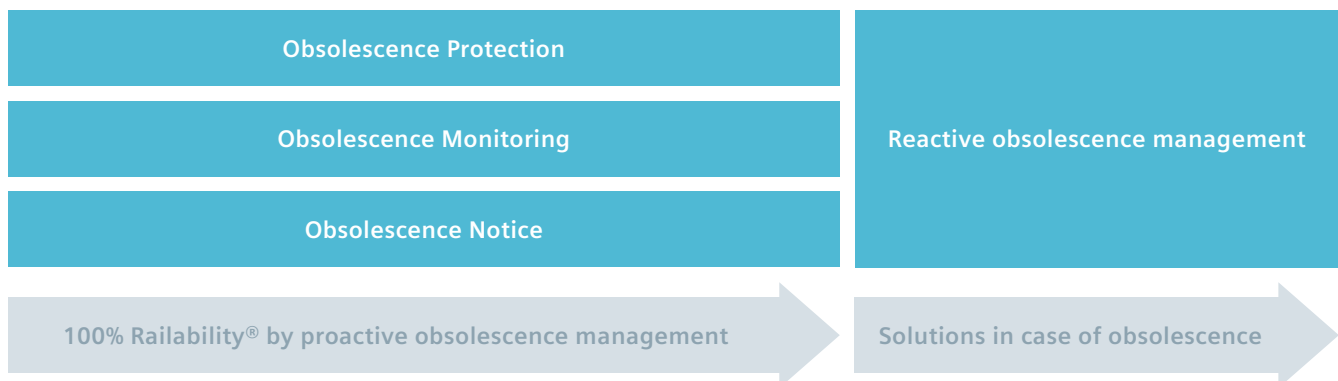
To be able to guarantee the availability of your systems in the long term, you need proactive obsolescence management. We ensure that obsolescence risks are reduced through forward planning and targeted measures. Depending on the customer requirements, various proactive obsolescence management modules are available: Obsolescence Notice, Obsolescence Monitoring and Obsolescence Protection.



Our service – your benefits

- Direct and fast access to OEM expertise via obsolescence management
- Reliable investment protection over the entire lifecycle
- Identification of critical spare parts months or rather years before the onset of obsolescence
- Action recommendations to ensure long-term spare parts availability and thus system availability
- Time and cost-optimized processing
- Minimization of the risk of downtimes and customer penalty claims
- Guaranteed spare parts availability subject to contractual agreement under terms defined in advance

SIMOS™ Easy Obsolescence Solutions



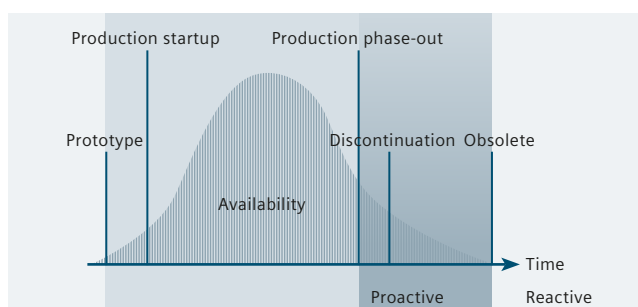
Our experience for your system availability

Really powerful obsolescence management requires monitoring of a very large number of components. Thus Siemens is responsible for around 20,000 vehicles with 15,000 parts each. Responsibility also extends to the infrastructure with just nearly 1,000 interlockings, as well as to installations and systems for road traffic control and management. All in all, the availability of over 300,000 components has to be monitored continually. We have been involved in the supply of spare parts since 1881. On the basis of this experience, we have developed powerful, structured measures and processes to help you to ensure the availability of your vehicles and systems with provisional solutions at short notice.

We protect your investments

In most cases, vehicles and rail systems are manufactured in small quantities. They have long delivery chains with large numbers of individual suppliers and they are subject to complex and lengthy certification procedures. For them to be operated profitably under these circumstances, it is imperative that the product has a long product life. We assure your investments with our Easy Obsolescence Solutions.

The aim should be, to identify risks at an early stage and initiate suitable measures within proactive obsolescence management to minimize the consequences of obsolescence wherever possible. This will increase the availability of your systems and cut the overall lifecycle costs.



Graphic showing the phases from product design at the manufacturer's to unavailability of a product

Obsolescence Notice

- Early warning of impending obsolescence (at least 6–12 months in advance) with a corresponding notification letter
- Identification and discussion of preventive solutions (e.g. residual requirements coverage and end-of-life provisioning; alternative production methods such as 3D printing)

Obsolescence Monitoring

- Monitoring of complete vehicles or systems in order to identify risks and critical components years in advance
- Clear picture of the future availability of spare parts with action recommendations
- Development of strategies to ensure spare parts supply in line with future requirements

Obsolescence Protection

In addition, you can also protect yourself contractually against potential obsolescence risks. For the duration of the contract, we guarantee the availability of all required spare parts for your vehicle or system under terms defined in advance. If necessary, this can also include migration packages that enable suitable substitute solutions to be developed in good time.

Reactive obsolescence management

If a component should unexpectedly become unavailable, our reactive obsolescence management solutions provide you with alternative options. Depending on the situation, various approaches are possible:

- Source compatible spare parts, remaining stock or used components
- Identify and qualify alternative suppliers,
- Carry out repairs and system upgrades
- Re-engineer obsolete components

Proven in practice – Some highlight references

Migration of legacy equipment to ensure repair of obsolete components

There is an obligation to repair hardware components of discontinued MS series street light controllers up to December 31, 2018, but the components needed for repairs are hard to find on the market or are no longer available. This is why a campaign was launched to buy back legacy controllers from 2009 to 2013.

A discount was granted to customers who returned their old MC controller and purchased an up-to-date controller from the Cxx series. The obsolete modules out of these controllers were then inspected for their reparability in the repair center and were placed in storage. Whenever required, these modules are then tested and replaced at the customer's as reworked service parts.

Thanks to this measure, it has been possible to replace around 300 discontinued MS controllers with those in the Cxx series and to achieve sufficient stocks of obsolete components to ensure repairs.



Re-engineering of outdated components

In 2009, a major customer enquired about ten central drive components for its diesel multiple units. However, it turned out that the subcontractor had already discontinued the components without a substitute. At the same time, the existing devices proved to be no longer suitable for repair. Therefore, Siemens decided to re-engineer the component. The responsible team accompanied the prototype and series production phases, for which a new manufacturer also had to be found. The first test series directly followed development of the hardware. The positive results achieved led to further test series in passenger operation lasting several months as from mid-2010. The special certification procedure for rail vehicles was also considered and also successfully completed with certification by the German Federal Railway Authority (EBA) in December 2012.



Safeguarding availability with last call

The AS 318 module is a hardware component for vehicle control and, among other things, is widely used in Combino trams and regional trains. The substantial impact was soon apparent when the manufacturer discontinued the product in 2007. Therefore, Siemens Mobility Services immediately determined customers' presumable demand and enabled the purchase of a residual stockpile. As a customer, you profit from this approach in several respects: You are automatically informed about a future gap in supplies. You can announce your future need. And you can cover it conveniently from one source.



Migration solution for Switzerland

The city of Basel has been buying rail vehicles from Siemens for a long time. The models delivered in the years 2001 and 2002 contain a processor module based on 386 and 486 technology, which has become outdated in the meantime. Siemens offered the development of a suitable migration package when further orders for the associated controls were pending in October 2012. This covered not only the replacement of the obsolete modules, but also included the checking of the hardware and software as well as the corresponding vehicle functions.



We keep the world running.

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