



**HighService Technological Innovation** area was created in 2001, in order to incorporate new technologies in customer processes, focused on safety, remote monitoring and wireless communications, specifically, add value to our customers business. In 2014 **HighService Technology** is born, as an extension of the HighService Technological Innovation area.

**HighService Technology** designs and manufactures technological solutions for mining companies. Our main goals are increasing safety levels, optimizing production, reducing environmental impact, basically improving quality standards of our customers.

Our staff is able to develop and integrate the latest wireless technologies into robust and reliable solutions that support the hard mining environment, whether in mine or the plant, providing certified products to our customers according to ISO 9001:2008 ISO 14001:2004 and OHSAS 18001:2007.

Our staff is enhanced with other entities collaboration such as universities and research centers both national and foreign. We expand our support network with suppliers from around the globe.



We have developed different projects, which have added value for our customers; among them our collision avoidance systems for vehicles and our remote monitoring system of critical equipment wear.

## Available systems and services



Smart Wear Sensor System (SWS)

This system allows remotely measuring and monitoring parts that suffer wear on some equipment, without stopping production or having to enter people or external devices. The wear at SAG mills coatings is monitored accurately reporting the progress and predicting with several weeks in advance critical wear points. Similarly, in feeders, the plates wear level is monitored, preventing an unexpected failure or an unscheduled stop.



Collision Avoidance System for Mining Vehicles (FleetSatfety)

Our system called Fleet Safety is an anti collision system for equipments that move in the mine. Haul trucks, support vehicles, light vehicles and all mobile are identified, warning their presence to other nearby vehicles. When any vehicle fronts another one, visual alerts and/or configurable sounds are emitted, helping to avoid collisions that may cause fatalities.



Safe Loading System (SLS)

Safe loading system is a collision avoidance system designed specifically for the shovel and auxiliary vehicles, which can also be extended to haul trucks. This system provides warning and vision in 360 degrees to the operator of the shovel around its operating point, distinguishing equipment around and how close they are. In turn, equipment around the shovel knows by screen and sounds if that area is safe, since with the bucket or its counterweight.

## Projects

CUSTOMER	AMSA - Minera Centinela Óxidos
SERVICE	FleetSafety collision avoidance system for vehicles and safe loading system for loader and support equipment.
PRODUCTS	FleetSafety and safe loading system.
DATE	Since 2012
SUCCESSFUL CASES Alert accident prevention with fatalities potential. Reduce incidents to 0% between the loader and support equipment.	
CUSTOMER	Minera Escondida Limitada / BHP-Billiton
SERVICE	Wear sensor system for SAG Mills coatings.
PRODUCTS	Wear sensor system.
DATE	Since 2010
SUCCESSFUL CASE	S Online determination of date of coatings replacements.
	Support in decision-making on production and maintenance scenarios.
CUSTOMER	Teck - Carmen De Andacollo
SERVICE	Project for implementation of an integrated online monitoring system for predictive maintenance mills.
PRODUCTS	Wear sensor system.
DATE	2011 up to date
CUSTOMER	AMSA El Tesoro
SERVICE	Manufacture, supply, installation, commissioning and support of FleetSafety light vehicles detection system and safe loading
SERVICE	system.
PRODUCTS	FleetSafety, safe loading system.
DATE	2008 up to date
	·
CUSTOMER	Vale - Carajás
SERVICE	Manufacture, supply, installation, commissioning and support of FleetSafety light vehicles detection system and safe loading
DDODLIOTO	system in Carajás located in Pará, Brazil.
PRODUCTS	FleetSafety, safe loading system. 2008 - 2009
DATE	2008 - 2009
CUSTOMER	Xstrata BHP-Billiton - Antamina
SERVICE	Manufacture, supply, installation and commissioning of Wear Sensor System for Antamina mining company SAG coatings mills.
PRODUCTS	Wear Sensor system.
DATE	2007
CUSTOMER	Xstrata - Lomas Bayas
SERVICE	Technological collaboration project for the development of an alarm and detection system for missing adapters and teeth
	through images processing.
PRODUCTS	Missing tooth detector.
DATE	2005
CUSTOMER	Anglo American - División Mantos Blancos
SERVICE	Design, development, testing and validation of safe loading system.
PRODUCTS	Safe loading system.
DATE	2004 - 2005
CUSTOMER	Amsa - Minera Los Pelambres
SERVICE	Design, Development, testing and validation of Wear Sensor System.
PRODUCTS	Wear sensor system.
DATE	2001





- **\** +56 2 26635700
- □ clientes@highservice.cl
- www.highservice.cl

