

# Rail Gearboxes

We drive solutions

## We drive solutions

The rail industry requires a highly specialized approach. Millions of people and companies depend on trains, trams and metros every single day. Reliability is crucial. IGW provides customized, robust and efficient drive solutions for this unique market since 1993. We have delivered so far over 100,000 gearboxes and gear couplings for the most prestigious rail projects all over the world.

Our commitment to operational excellence makes the difference, enabling us to combine the best value on the market with a tailor-made approach. The unrivalled efficiency, reliability and long service life of our solutions all contribute to the lowest total life cycle cost for the customer.

With plants in Belgium, the Czech Republic, Romania, India, China and the USA, IGW is close to customers all over the globe.

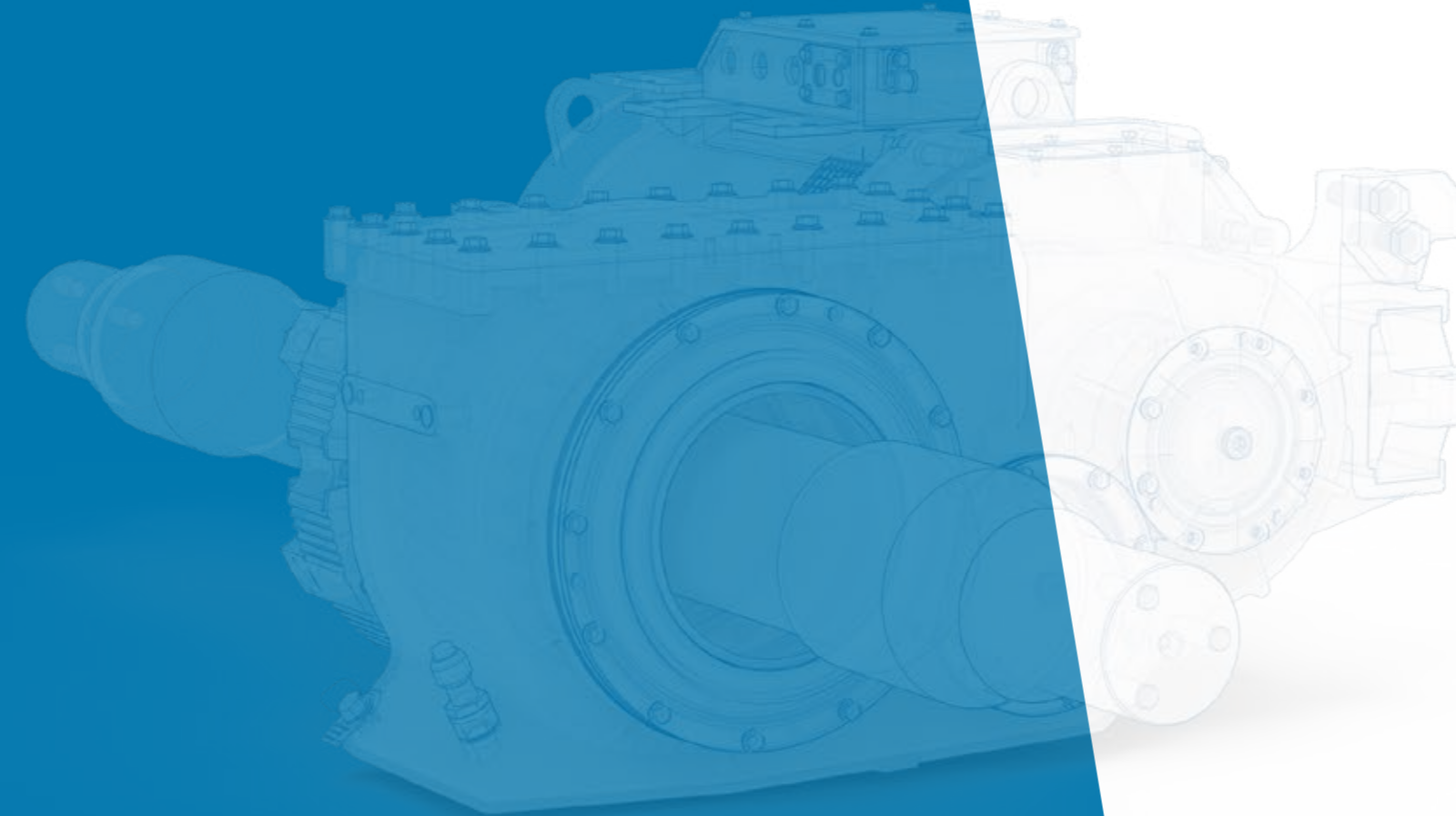
## Designed to perfection

Your equipment needs to perform under all conditions. Hot or cold temperatures, mountains or countryside environments... Therefore we make sure all the products we provide to you are tested in the right circumstances.

From heavy duty locomotives to light rail applications, from low speed city metros to very high speed trains, IGW is your engineering partner for any drive solution. We offer a complete service, from an extensive requirement analysis to premium production and future overhaul services.

Many years of field experience have given us the insight to focus on design features with a proven reliability, and to avoid those that have caused problems in the field. Using the latest engineering software and simulation tools, we ensure lifetime performance and minimal life cycle cost are built in from the design phase.

In cooperation with leading industrial partners and universities, we continue to innovate gearbox technology, improve energy efficiency and reduce life cycle cost, making sure the gearbox market is always moving forth.



# A gearbox for every need

IGW gearboxes provide the solution you need. The overview below shows examples of different gearbox types. Our full range of tailor-made solutions stretches beyond what is listed here. Ask our sales people to receive a more extended reference list

## APPLICATIONS

01

METRO/EMU/DMU/  
HIGH SPEED

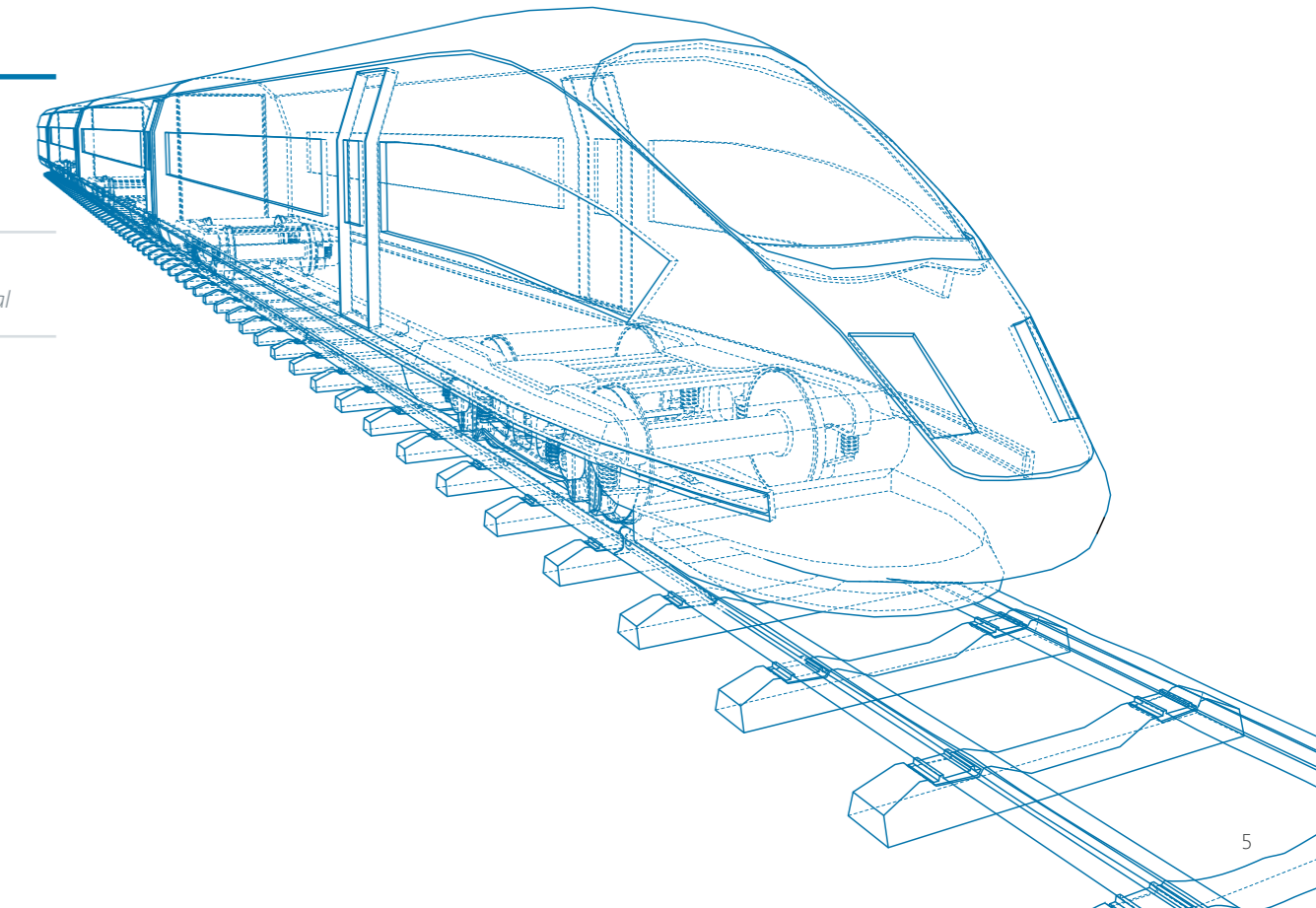
02

LOCO

03

TRAM/LRV

	01		02			03		
	METRO/EMU/DMU/ HIGH SPEED		LOCO			TRAM/LRV		
SUSPENSION TYP	Semi suspended	Fully suspended	Semi suspended	Fully suspended	Nose suspended	Semi suspended	Fully suspended	
GEARING	<i>Helical, Bevel, Bevel-Helical</i>	<i>Helical</i>	<i>Helical</i>			<i>Helical</i>	<i>Helical</i>	<i>Bevel, Bevel-Helical</i>
NUMBER OF STAGES	1 & 2 stage	2 stage	1 & 2 stage	2 stage	1 stage	2 stage	2 stage	1 & 2 stage



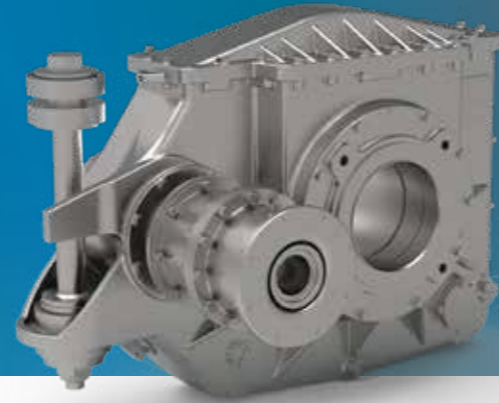


# 01 GEARBOXES FOR METRO/EMU/DMU/HIGH SPEED

TYPICAL PARAMETER RANGES FOR OUR METRO/EMU/DMU/HIGH SPEED GEARBOXES

**Gear ratio:** 2,0 - 10,0  
**Axle load:** 11 - 22 t  
**Speed:** 80 - 280 km/h  
**Power:** 70 - 650 kW

SEMI-SUSPENDED,  
HELICAL  
*1-stage*



**Project:** Metro New York  
**Gear ratio:** 7,23  
**Axle load:** 15 t  
**Speed:** 90 km/h  
**Country:** United States of America

SEMI-SUSPENDED  
HELICAL  
*1-stage*



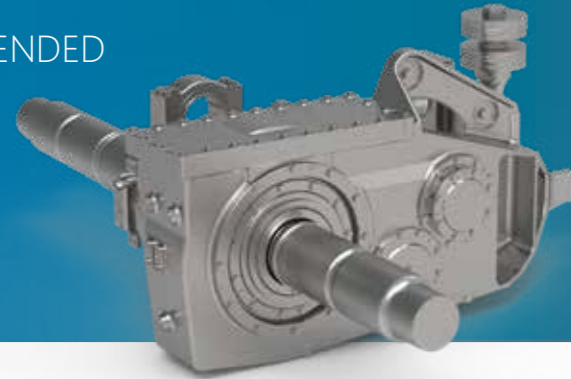
**Project:** Channel Tunnel Rail Link  
**Gear ratio:** 3,632  
**Axle load:** 15 t  
**Speed:** 225 km/h  
**Country:** United Kingdom

SEMI-SUSPENDED  
HELICAL  
*2-stage*



**Project:** Sub Surface Line London  
**Gear ratio:** 6,59  
**Axle load:** 13 t  
**Speed:** 100 km/h  
**Country:** United Kingdom

SEMI-SUSPENDED  
HELICAL  
*2-stage*



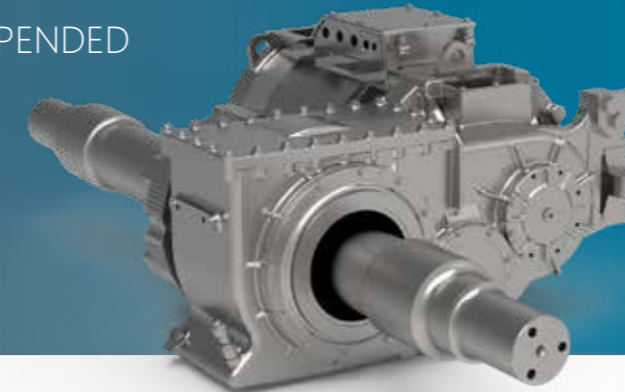
**Project:** EMU Denver  
**Gear ratio:** 4,89  
**Axle load:** 21,6 t  
**Speed:** 160 km/h  
**Country:** United States of America

SEMI-SUSPENDED  
HELICAL  
*2-stage*



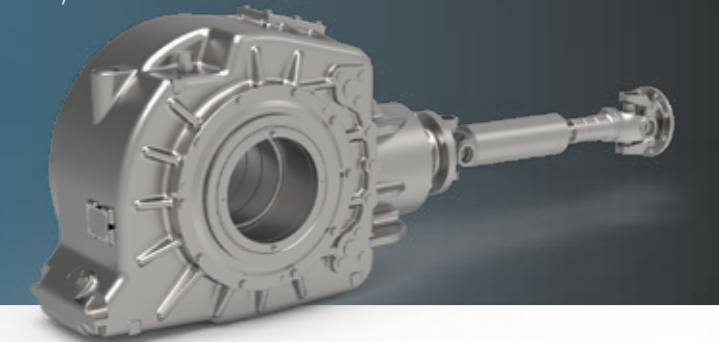
**Project:** Metro Line I Caracas  
**Gear ratio:** 8,86  
**Axle load:** 15 t  
**Speed:** 100 km/h  
**Country:** Venezuela

FULLY-SUSPENDED  
HELICAL  
*2-stage*



**Project:** Autorail à Grande Capacité (AGC)  
**Gear ratio:** 4,68  
**Axle load:** 19 t  
**Speed:** 160 km/h  
**Country:** France

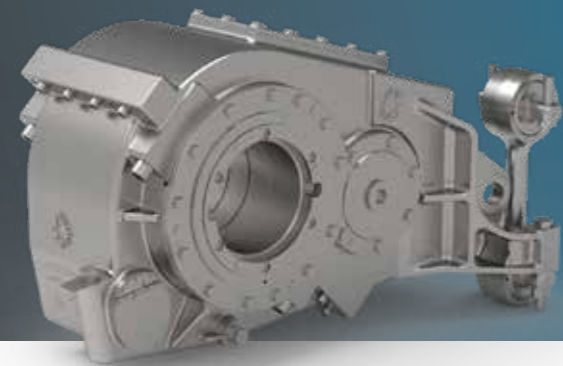
SEMI-SUSPENDED,  
BEVEL  
*1-stage*



**Project:** Ankara Metro  
**Gear ratio:** 7,11  
**Axle load:** 14,5 t  
**Speed:** 80 km/h  
**Country:** Turkey

# 01 GEARBOXES FOR METRO/EMU/DMU/HIGH SPEED

SEMI-SUSPENDED,  
BEVEL-HELICAL  
2-stage



**Project:** Mallorca Tram-Train  
**Gear ratio:** 6,59  
**Axle load:** 13 t  
**Speed:** 100 km/h  
**Country:** Spain

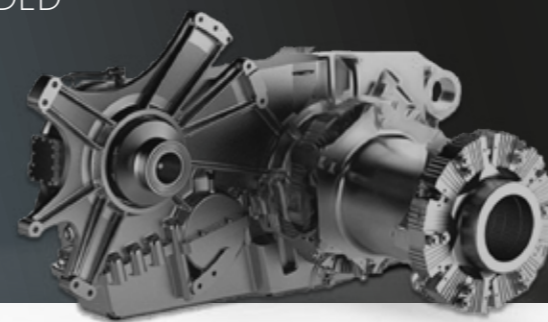
# 02 LOCOMOTIVE

TYPICAL PARAMETER RANGES FOR  
OUR LOCOMOTIVE GEARBOXES

**Gear ratio:** 2,0 - 10,0  
**Axle load:** 20 - 32 t  
**Speed:** 80 - 230 km/h  
**Power:** 200 -1500 kW

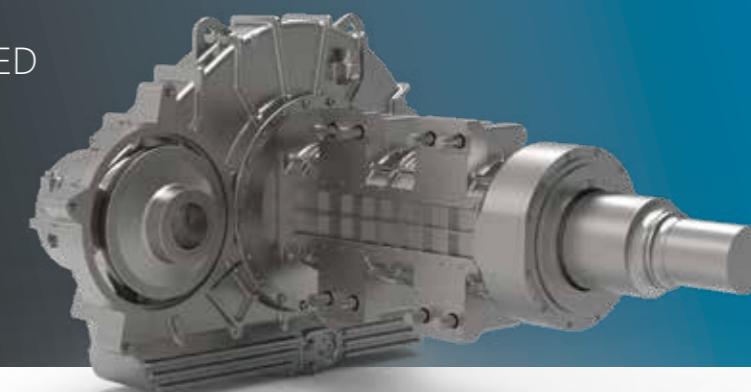
# 02 LOCOMOTIVE

FULLY-SUSPENDED  
HELICAL  
2-stage



**Project:** E403  
**Gear ratio:** 4,412  
**Axle load:** 22,5 t  
**Speed:** 180 km/h  
**Country:** Italy

NOSE-SUSPENDED  
HELICAL  
1-stage



**Project:** E68000  
**Gear ratio:** 4,826  
**Axle load:** 22 t  
**Speed:** 140 km/h  
**Country:** Turkey



SEMI-SUSPENDED  
HELICAL  
1-stage



**Project:** Euro Runner  
**Gear ratio:** 5,095  
**Axle load:** 22,5 t  
**Speed:** 160 km/h  
**Country:** Austria

SEMI-SUSPENDED  
HELICAL  
2-stage



**Project:** ER 20  
**Gear ratio:** 6,826  
**Axle load:** 23 t  
**Speed:** 120 km/h  
**Country:** Lithuania

SEMI-SUSPENDED,  
HELICAL  
2-stage

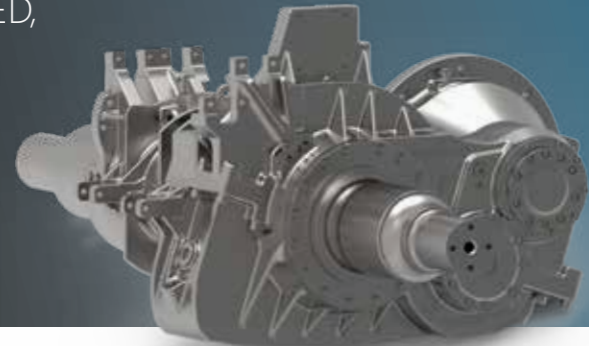


**Project:** WAP5  
**Gear ratio:** 3,952  
**Axle load:** 19,5 t  
**Speed:** 160 km/h  
**Country:** India



## 02 LOCOMOTIVE

SEMI-SUSPENDED,  
HELICAL  
2-stage



**Project:** H3 Durutrail  
**Gear ratio:** 8,499  
**Axle load:** 25 t  
**Speed:** 110 km/h  
**Country:** Germany

## 03 TRAM / LRV

TYPICAL PARAMETER RANGES FOR  
OUR TRAM/LRV GEARBOXES

**Gear ratio:** 5 - 7  
**Axle load:** 5 - 13 t  
**Speed:** 60 - 100 km/h  
**Power:** 50 -150 kW

## 03 TRAM / LRV

FULLY-SUSPENDED  
HELICAL  
2-stage

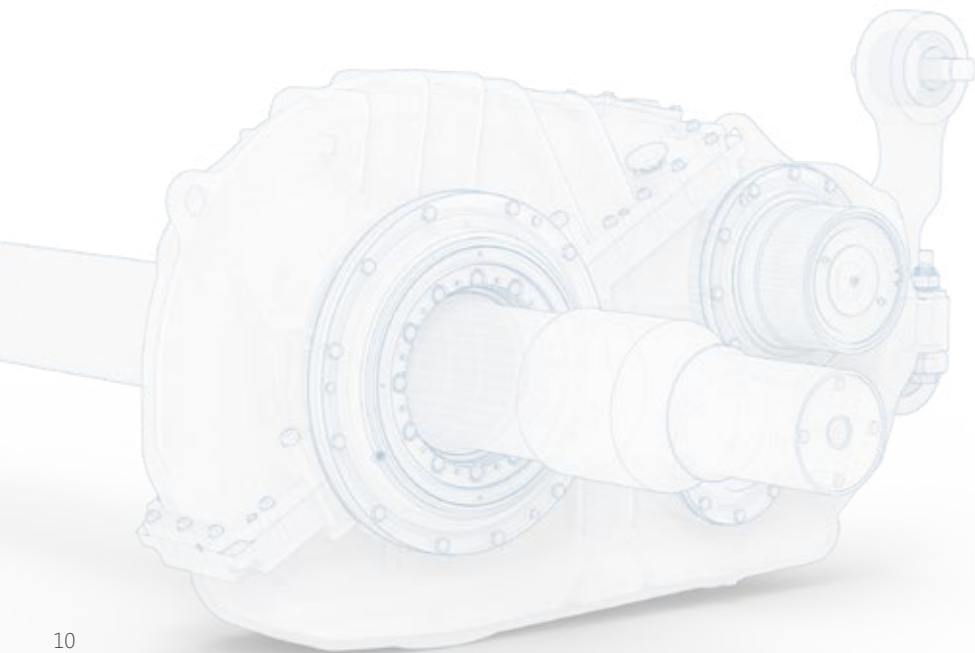


**Project:** TW 3000 Hannover  
**Gear ratio:** 7,41  
**Axle load:** 12 t  
**Speed:** 80 km/h  
**Country:** Germany

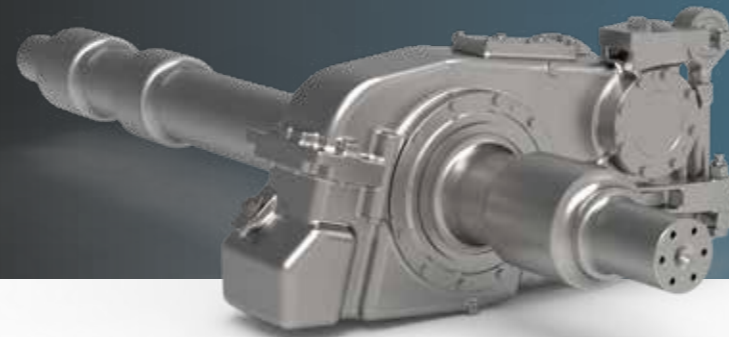
FULLY-SUSPENDED  
HELICAL  
2-stage



**Project:** Seattle/Phoenix  
**Gear ratio:** 6,63  
**Axle load:** 10,6 t  
**Speed:** 88 km/h  
**Country:** United States of America

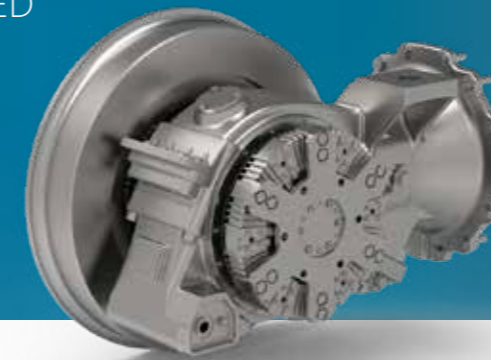


SEMI-SUSPENDED  
HELICAL  
2-stage



**Project:** Chiclana  
**Gear ratio:** 5,36  
**Axle load:** 13 t  
**Speed:** 100 km/h  
**Country:** Spain

FULLY-SUSPENDED  
BEVEL  
1-stage



**Project:** Combino  
**Gear ratio:** 5,544  
**Axle load:** 5,25 t  
**Speed:** 80 km/h  
**Country:** Israel

FULLY-SUSPENDED,  
BEVEL-HELICAL  
2-stage



**Project:** Flexity  
**Gear ratio:** 7,14  
**Axle load:** 11,5 t  
**Speed:** 77 km/h  
**Country:** Belgium



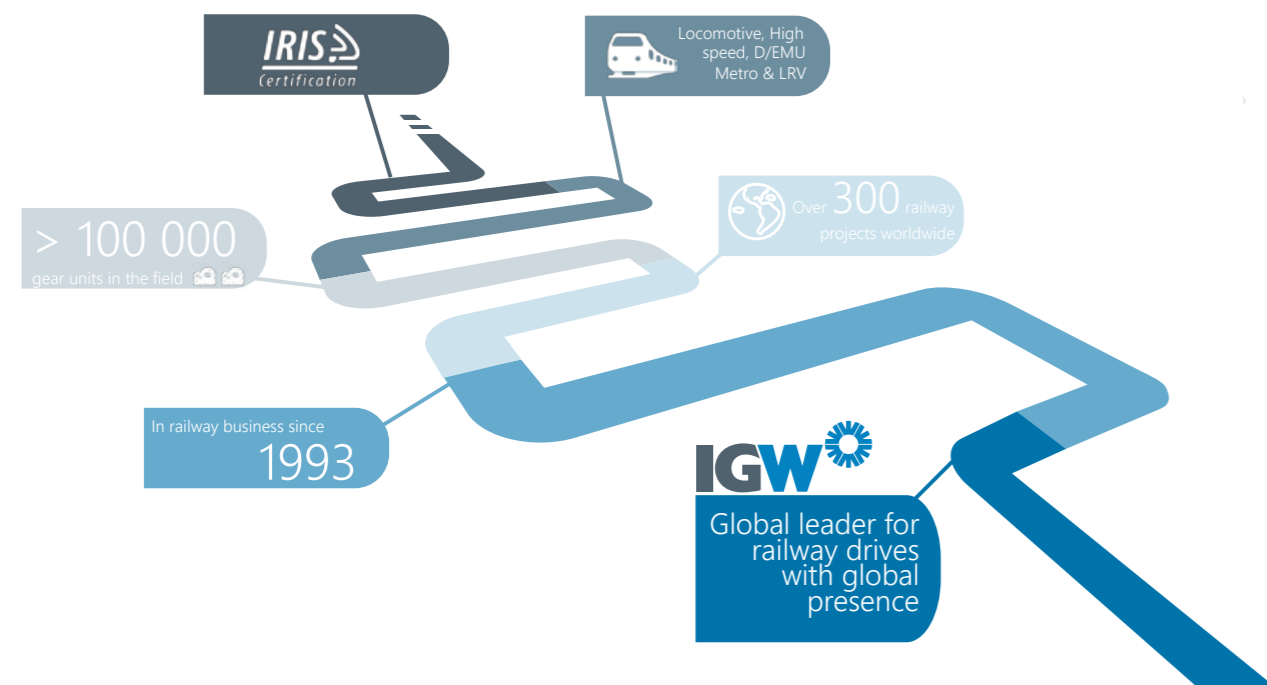
# 7 good reasons to trust IGW gearboxes

1. Our **highly skilled people** will help to find the solutions your are searching for
2. A fully IGW-controlled process with **in-house development and testing**
3. Exclusive use of **quality components**
4. We provide robust and efficient systems with a special focus on **minimized maintenance** and **low noise**
5. Unrivalled capability to offer **fully customized solutions**
6. **Supply chain optimization** and **design standardization** to ensure short time to market & delivery reliability
7. **One-source procurement** for gearbox, coupling & service.



# A proven track record

For many years, we have been providing drive solutions to the railway industry. So far, we have delivered approximately over 100,000 gearboxes globally within more than 55 countries all over the globe. Many industry-leading customers have placed their trust in our expertise, state-of-the-art capabilities and the quality of our products.



## Examples of IGW gearbox projects

FOR A COMPLETE REFERENCE LIST PLEASE CONTACT OUR SALES TEAM

Region	Project	Year	Quantity
Australia, Melbourne	Flexity Swift Low-Floor Trams	2012	518
Brazil, São Paulo	EMU's for Commuter Network	2014	488
China, Shanghai	Metro Line 6 & 8 Phase IV	2018	688
Egypt, Cairo	Metro Cairo III	2018	480
India, New Delhi	Metro Airport Express	2008	932
Malaysia	Light Rail Transit 3	2018	672
Russia, Saint Petersburg	NeVa Metro Cars	2013	385
Singapore	Metro Downtown Line	2009	736
Spain	CIVA IV EMU	2008	834
Sweden	REGINA Sweden EMU	2002	700
Switzerland, Basel	FLEXITY 2 Trams	2013	350
South-Africa	Euro Dual Locomotives for Shosholoza Meyl	2015	40
South-Korea	Korail EMU	2018	256
Thailand, Bangkok	DESIRO - Airport Rail Link	2006	80
Turkey, Izmir	Izmir Tram	2016	304
United Arab Emirates	Dubai 2020	2018	806
UK, London	Victoria Line Ext.	2008	1078
USA, Los Angeles	MetroLink Locomotives	2015	174



## In good company

IGW is part of BMT drive solutions, a division of the BMT Group. The drive solutions division serves customers in three markets: automotive, industrial and rail. Our shared know-how, commitment to innovation and global presence makes us a formidable force in the gear system market.



## CONTACT US

### Our plants for the business line rail

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