

CORPORATE PROFILE



Dr. Hutarew & Partner



Portrait of Dr. Hutarew & Partner, Germany

Your experts in the fields of **WATER – ENERGY – ENVIRONMENT**

The company *Dr. Hutarew & Partner* was founded in 1986 as an engineering consultancy by Dr. Dipl.-Ing. Andreas Hutarew in Pforzheim, Germany. The city is well embedded into the strongest economic region in Germany. Here it is where extraordinary **technical know-how** and **innovation** meet the highest of **quality standards** and lead to products and services which have every right to be called *the best in the world*.

Dr. Hutarew & Partner has been proudly providing engineering expertise to governments, industries, international banks, private investors or global institutions. With its experience of more than 30 years it successfully operates branches in India and the UAE and has realized numerous projects all around the globe.

We left our footprint in countries like:

- Germany
- Austria
- France
- Switzerland
- Hungary
- Czech Republic
- United Arab Emirates
- India
- Nepal
- United States of America
- China
- Brazil
- Turkey

The name Hutarew though is well-known for more than five decades. It was the late professor Dr. Georg Hutarew, father of Andreas, who established a vital reputation with his extensive knowledge and worldwide activities in hydraulics. After all these years his vision and entrepreneurial spirit are still crucial and have been passed on to the third generation.

The company's key areas of expertise are water, energy and environment. We focus on infrastructure, water management, hydro, energy production, hydraulics & irrigation, environmental engineering, fresh water-, storm water- and waste water treatment and distribution and waste engineering. We operate in the following fields:

- Civil Engineering
- Infrastructure
- Environmental Engineering
- Engineering Education
- Mechanical Engineering
- Electrical Engineering
- IT and Communication
- Process Engineering
- Monitoring and panelling systems
- Risk-Cost Management

Services we offer:

- Engineering Services
- Project Management
- Project Development
- Cost- & Risk Management
- Health & Safety
- Expert Assessment
- Measuring and testing
- 3D Laser Scan
- 3D flow simulation

Throughout the years we have continually diversified our areas of commitment and expertise - adapted to changing market demands. For further information visit www.hutarew.com.

We pride ourselves with a team which motivates to do their very best...every single day. Intercultural competency is our daily work. Our headquarter in Germany employs staff from all over the world. Most of them have been with the organization for more than two decades guaranteeing continuous **service excellence** and bringing **international standard of practices** from their various cultural backgrounds. All team members are *interdisciplinary trained* and have a *proven track record* of *completing international projects*. To ensure this service excellence in the best interest of our clients our staff consists of civil-, electrical- and mechanical engineers and designers, environmental study experts, business economists, project managers, risk assessment and marketing experts.

Link In- Network your visions

Additionally we are in close contact with universities and organizations in Germany and abroad for further development of this excellence and exchange of experience. Research and education secure access to latest technologies and enables to acquire the best students to join our company. Services and advice provided by our recognized international experts are available on demand and whenever needed. Over the years we have established a strong network of partners and committed ourselves to excellence in design for operation.

We think global, but act local

All based on clients' needs and tailored to their specific requirements. We deliver **cost-effective**, **eco-friendly**, **innovative** and **sustainable** solutions to YOUR projects.

We do not hesitate to take on new challenges! In this we find the motivation to exploit our full potential. **Engineering beyond** – our input is appreciated when others reach their limits.

Stories of success

United Arab Emirates – We started our advisory activities in the GCC countries more than 30 years back. Network analysis monitoring and leakage detection of water supplies was one of our first projects in the UAE.

Residential housing projects (truly environmental water and energy supplies) - One of the recent pioneering projects involves preserving resources in modern housing and is given as an example with a Dubai villa built in 2014. For this energy efficient house different techniques and products were used to minimize the sun's impact maintaining a constant indoor temperature regardless of the soaring outdoor temperatures in Dubai. The technology made use of highly efficient LED components, recycles the already low-energy consumption which is used for cooling and powering of appliances through heat pumps. This creates an affordable comfort.

This is a great example of German first-class engineering and innovative technology. In a world of ever-consuming demand this can help reduce water and energy consumption for the good of future generations.

India - Our branch *Dr. Hutarew & Partner (India) Pvt. Ltd.* was registered in 1997 in New Delhi. With our local Managing Director we found a man of high reputation who is a highly-experienced expert in the fields of hydroelectric and waste water projects in India and abroad. Within a short period of time the company established itself as one of the **leading Indian consulting engineering firms**. Well known in the Indian water and infrastructure industry it has won numerous awards for the design and execution of *engineering facilities* in India.

Austria - Infrastructural design is an essential part of the recent hydro projects in Austria. The new low-head hydro plant Illspitz includes all utilities, energy generation and distribution to the public grid. A new, innovative fish passage system has received the highest appreciation within the Swiss - Austrian region along the rivers Ill and Rhine. Groundwater melioration and enrichment is as well included as the implementation of the far-distance water main in the scheme. Crossing the two kilometer long natural conservation area is one of our distinct features where we found acceptance from authorities and residents.

Rehabilitation of pressurized pipe water conductor systems in Tyrol is another competitive highlight. After more than 50 years the penstock pipes - including tunnel and reservoirs - have been renovated. The challenge of technical solutions is similar to the renovation of water supply systems which are currently ongoing in Europe.

Germany - Taking responsibility for the energy supplies includes reconstruction and rehabilitation of all components. Starting from dams and intake structures, we conduct water over distances of more than 20 km. Elevated and underground reservoirs, pressurizing systems for search control systems and computation of water conductors are our strengths. System-analysis and optimization is one step of preventive maintenance in hydro industries.

Power evacuation to the grid is the final step to connect the hydro electric plants.

Based on our broad interdisciplinary experience we broadened our expertise in the fields of risk and cost management. We know never to stand still, because success only comes with life-long learning. Based on our competencies in design, execution and operation we are the advisors and experts to call for financially ambitious projects.

Environmental impact assessment includes socio-economic verification and mitigation. We see in the implementation a challenge to introduce such major changes with a dedicated sensitivity for the consumer. Within this package of multiple interdisciplinary performance requirements we feel strongly committed and comfortable.

We promise: our concept offers solutions for any challenge in the fields of water - energy - environment. *Dr. Hutarew & Partner* cares for **sustainable solutions** and **reliability** as much as we care for trust, honesty and hard work.

Be assured: we perform engineering beyond – from design to operation.

Facts and figures

Our inspiring founder: late Prof. Dr. Georg Hutarew

Our founder: Dr. Andreas Hutarew

- Dr. Hutarew is a publicly appointed and inaugurated expert for hydro and hydro power.
- He is a member of the board at the Chamber of Engineers Baden-Württemberg.
- He is a publicly certified expert by IHK Pforzheim.
- ADR - International commercial mediator.
- Lecturer at the University Stuttgart and HBC Biberach.

54 publications in national and international journals.

2 books on hydraulic and small-scale hydro power.

Attending numerous congresses and delivering speeches.

Since 1986:

Managing Director **Dr. Hutarew & Partner**, Pforzheim

Focus: Water - Energy - Environment

Water resources and Hydro Power Consultancy

1992:

Hutarew GmbH (Pvt. Ltd. Company)

Managing Director for Water, Power and Environment

Operational, monitoring, start up of Hydro, Infrastructure and Environment consultancy

1998:

Managing Director, **Dr. Hutarew & Partner (India) Pvt. Ltd.**

Responsible for Water, Power and Environment

Number of projects: more than 200 realised and implemented so far

Research & Development

1981: Patent Bio2-Sludge - Innovative wastewater treatment system

1983: Patent concircular self-cleaning stormwater tank

1991: Worldwide first HEP with converter operated induction generators with speed variation

1996: Patent in fish protecting facility for power stations

2009: First mechanical variable speed adapter unit in HEP with 5 MW output

2009: Monitoring unit for fishlife in hydraulic structures and HEP's

2013: Application of converter driven pump-storage turbines (20 - 100 MW)

The name DR. HUTAREW is connected to the following hydropower stations - a few examples:

<u>Location/Country</u>	<u>Technical Data</u>
<u>Gmunden / Austria</u> <u>Site Engineer</u>	<u>2 x 6,1 MW, head 9.1 m, 68 GWh/a</u>
<u>Feistritz / Austria</u> <u>PM Assitant on site</u>	<u>2 x 40 MW, head 23 m, 390 GWh/a</u>
<u>Rosegg / Austria</u> <u>Controller at site</u>	<u>2 x 42 MW, head 22 m, 370 GWh/a</u>
<u>Auerbrücke / Germany</u> <u>Project manager</u>	<u>2 x 0,5 MW, head 5.7 m, 4,5 GWh/a</u>
<u>Aldingen / Germany</u> <u>Project manager</u>	<u>2 x 1,2 MW, head 3.3 m, 5,8 GWh/a</u>
<u>Mürz / Austria</u> <u>Project manager</u>	<u>9 x 2,4 MW, head 30 m, 68 GWh/a</u>
<u>Donautal / Germany</u> <u>Project manager</u>	<u>3 x 1,6 MW, head 6.5 m, 13 GWh/a</u>
<u>Salach / Germany</u> <u>Consultant</u>	<u>2 x 1,2 MW, head 12.5 m, 6 GWh/a</u>
<u>Salach II / Germany</u> <u>Project manager</u>	<u>4 x 6 MW, head 23.2 m, 36 GWh/a</u>
<u>Bettenhausen / Germany</u>	<u>4,8 MW, head 60 m, 18 GWh/a</u>
<u>Göppingen / Germany</u> <u>Project manager</u>	<u>0,5 MW, head 4.2 m, 1,8 GWh/a</u>
<u>Rottenburg / Germany</u> <u>Turn-key Project manager</u>	<u>2 x 0,5 MW, head 5.3 m, 5 GWh/a</u>
<u>Esslingen / Neckar</u>	<u>2 x 2 MW, head 3.6 m, 12,8 GWh/a</u>
<u>Wendlingen / Germany</u> <u>Turn-key Project manager</u>	<u>0,6 MW, head 3.8 m, 4,1 GWh/a</u>
<u>Kriebstein / Germany</u> <u>Turn-key Project manager</u>	<u>3 x 2,4 MW, head 22 m, 25,6 GWh/a</u>

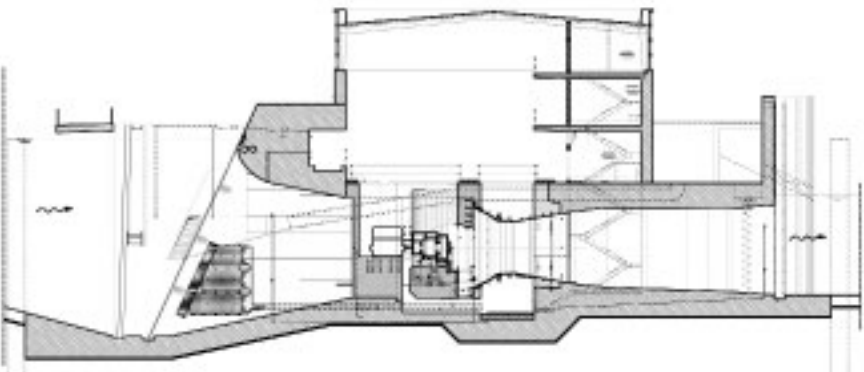
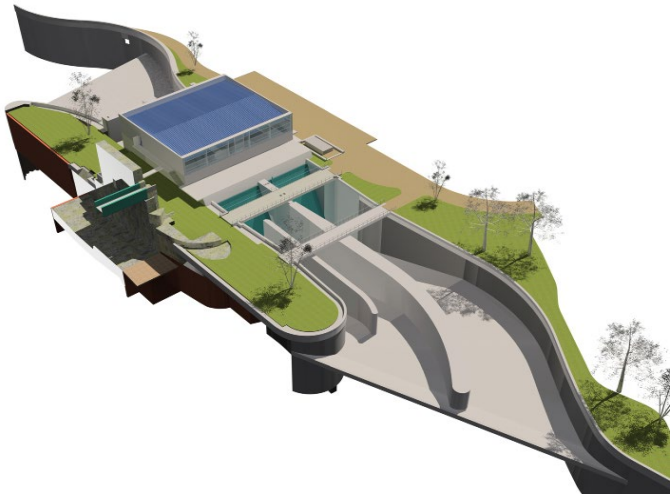
Location/Country**Technical Data****Lauffen / Germany**
Consultant**2,2 MW, head 8.2 m, 13,6 GWh/a****Bellenberg / Germany**
Turn-key Project manager**2 x 1,2 MW, head 5.80 m, 11,2 GWh/a****Kühberg / Germany**
Turn-key Project manager**2,3 MW, head 302 m, 5,5 GWh/a****Rottenburg II / Germany**
Turn-key Project manager**1,2 MW, head 6.1 m, 6,2 GWh/a****Rottenburg III / Germany**
Turn-key Project manager**0,02 MW, head 3.1 m, 0,16 GWh/a****Horb Neckar / Germany**
Turn-key Project manager**0,3 MW, head 2,2 m, 0,5 GWh/a****Sigmaringen Schloss / Germany**
Turn-key Project manager**0,3 MW, head 1.8 m, 1,25 GWh/a****Sigmaringen Laiz / Germany**
Turn-key Project manager**0,28 MW, head 1.9 m, 1,32 GWh/a****Brückenstrasse / Germany**
Turn-key Project manager**1,2 MW, head 4.2 m, 4,8 GWh/a****Niefern / Germany**
Turn-key Project manager**0,3 MW, head 2.8 m, 1,85 GWh/a****Altenburg / Germany**
Turn-key Project manager**2,3 MW, head 9.8 m, 11,25 GWh/a****Donaustetten / Germany**
Turn-key Project manager**2,1 MW, head 5.8 m, 8,2 GWh/a****Weserwehr Bremen / Germany**
Consultant**2 x 5 MW, head 5.8 m, 38,2 GWh/a****Kostheim Main / Germany**
Turn-key Project manager**2 x 2,5 MW, head 3.8 m, 28,2 GWh/a****Trempel / Thur Switzerland**
Consultant**2,2 MW, head 24 m, 9,5 GWh/a**

<u>Location/Country</u>	<u>Technical Data</u>
<u>PSW Blau / Germany</u> <u>Turn-key Project manager</u>	<u>2 x 40 MW, head 115 m, 36 GWh/a</u>
<u>WKW Admont Austria</u> <u>Turn-key consultant</u>	<u>2 x 5,2 MW head 8,0 m, 38 GWh/a</u>
<u>WKW Illspitz Austria</u>	<u>2 x 2,8 MW head 8,9 m, 29 GWh/a</u>
<u>PSW Leun / Germany</u> <u>Turn-key Project consultant</u>	<u>2 x 20 MW, head 185 m, 34 GWh/a</u>
<u>Bhyunder / India</u> <u>Turn-key Project manager</u>	<u>25 MW, head 260 m, 165 GWh/a</u>
<u>Pulna / India</u> <u>Turn-key Project manager</u>	<u>13 MW, head 186 m, 52 GWh/a</u>
<u>Khiraoganga / India</u> <u>Consultant</u>	<u>4 MW, head 63 m, 22,5 GWh/a</u>
<u>Madkini / India</u> <u>Consultant</u>	<u>9 MW, head 167 m, 46 GWh/a</u>
<u>Kotla Kanal / Punjab</u> <u>Quality management</u>	<u>2 x 700 KW, head 2.71 m, 9,5 GWh/a</u>
<u>Harangi / India</u> <u>Quality management</u>	<u>2 x 4,5 MW, head 20 m, 25 GWh/a</u>
<u>Indrawati III / Nepal</u> <u>Quality management</u>	<u>3 x 2,5 MW, head 63 m, 45,8 GWh/a</u>
<u>Rammam / West Bengal</u> <u>Quality management</u>	<u>3 x 30 MW, head 476.5 m, 416 GWh/a</u>
<u>Sarju Loharkhet / Uttaranchal</u> <u>Consultant</u>	<u>3 x 1,5 MW, head 195 m, 11,2 GWh/a</u>
<u>Fozal / Himachal Pradesh</u> <u>Consultant</u>	<u>3 x 3 MW, head 137 m, 28,86 GWh/a</u>
<u>Tirthan / Himachal Pradesh</u> <u>Quality management</u>	<u>2 x 2,5 MW, head 80 m, 31,4 GWh/a</u>

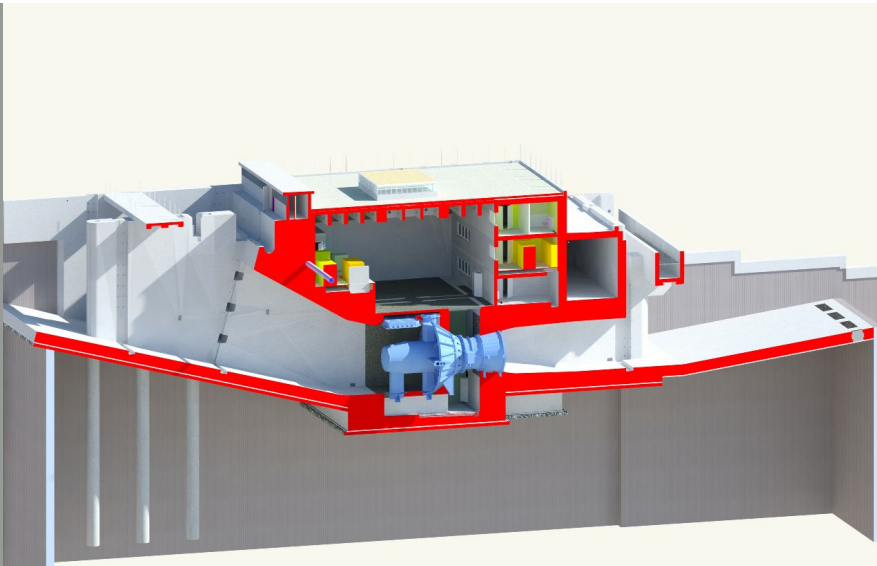
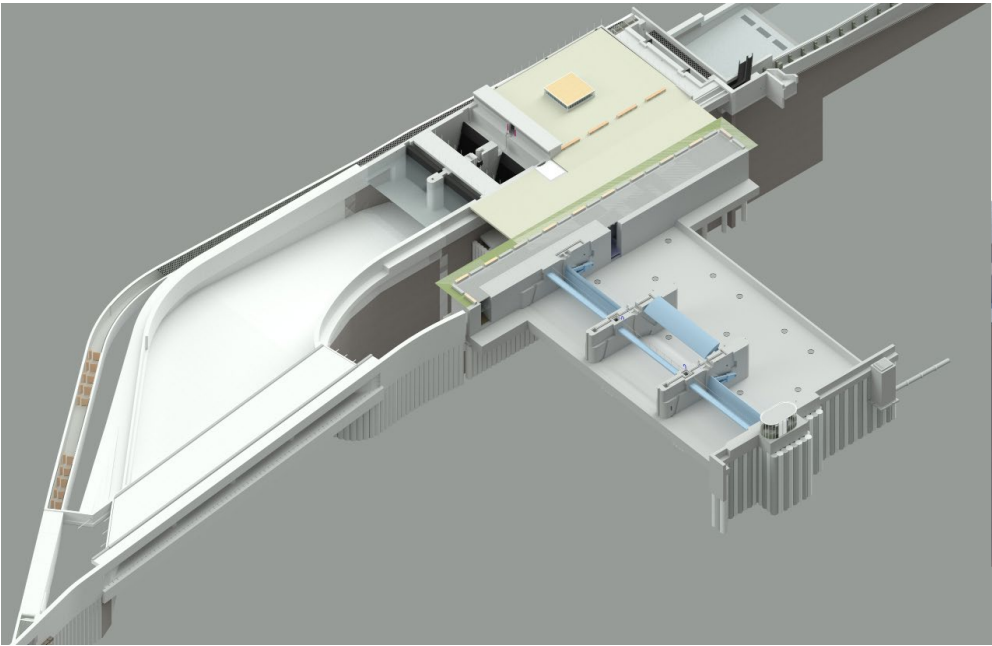
<u>Location/Country</u>	<u>Technical Data</u>
<u>Lower Nyadhi / Nepal</u> <u>Turn-key project management</u>	<u>2 x 4,5 MW, head 160 m, 45,8 GWh/a</u>
<u>Harangi / Karnataka</u> <u>Quality management</u>	<u>2 x 4,5 MW, head 35 m, 53,8 GWh/a</u>
<u>Andhi Khola / Nepal</u> <u>Consultant</u>	<u>2 x 750 KW, head 35 m, 4,8 GWh/a</u>
<u>Birahi Ganga / Uttaranchal</u> <u>Quality management</u>	<u>3 x 5,0 MW, head 178 m, 42,0 GWh/a</u>
<u>Pennar / Andhra Pradesh</u> <u>Quality management</u>	<u>2 x 5,0 MW, head 22 m, 54,5 GWh/a</u>
<u>Teesta IV / India</u> <u>Advisory board</u>	<u>6 x 200 MW, head 280 m, 5265,8 GWh/a</u>
<u>Mapang / Himachal Pradesh</u> <u>Turn-key Consultant</u>	<u>4 x 90 MW, head 400 m, 1830 GWh/a</u>
<u>Bhilangana / Uttranchal</u> <u>Quality management</u>	<u>3 x 7,5 MW, head 81.6 m, 70,5 GWh/a</u>
<u>Iku – II H.E. / Himachal Pradesh</u> <u>Quality management</u>	<u>2 x 2,5 MW, head 370 m, 33,1 GWh/a</u>
<u>Nagaland 2</u> <u>Technical consultant</u>	<u>2 x 12,5 MW, head 37 m, 1303 GWh/a</u>
<u>MBL I – II H.E. / Punjab</u> <u>Turn-key consultant</u>	<u>3 x 12,5 MW, head 8 m, 73 GWh/a</u>
<u>Pachuk I HEP/ Arunachal Pradesh</u> <u>Detailed Project Report (DPR) - Clearance</u>	<u>4 x 23 MW, head 131 m, 440 GWh/a</u>
<u>Pakke I HEP / Arunachal Pradesh</u> <u>Detailed Project Report (DPR) - Clearance</u>	<u>3 x 16 MW, head 386 m, 195 GWh/a</u>
<u>Pakke II HEP / Arunachal Pradesh</u> <u>Detailed Project Report (DPR) - Clearance</u>	<u>3 x 5,33 MW, head 132 m, 68 GWh/a</u>

Turn-key Project management includes full responsibility for technical and commercial details

A few impressions...



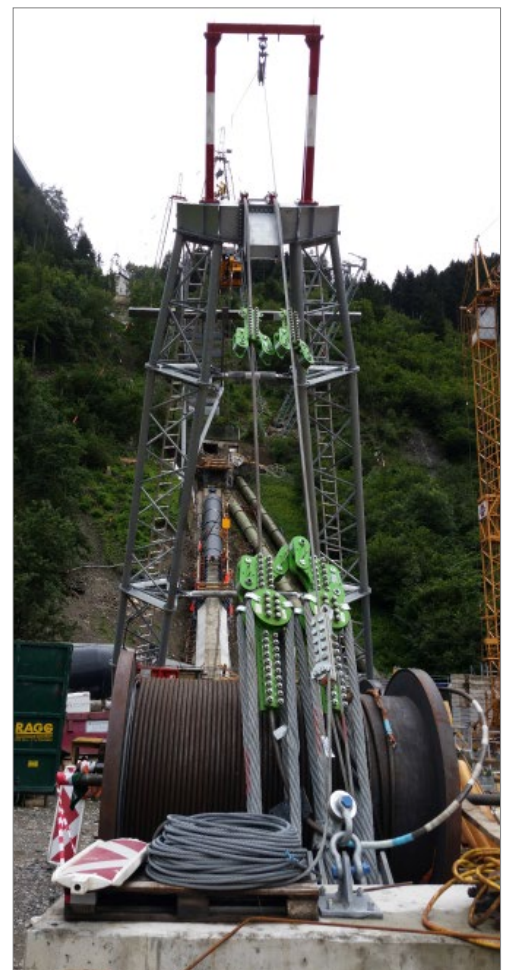
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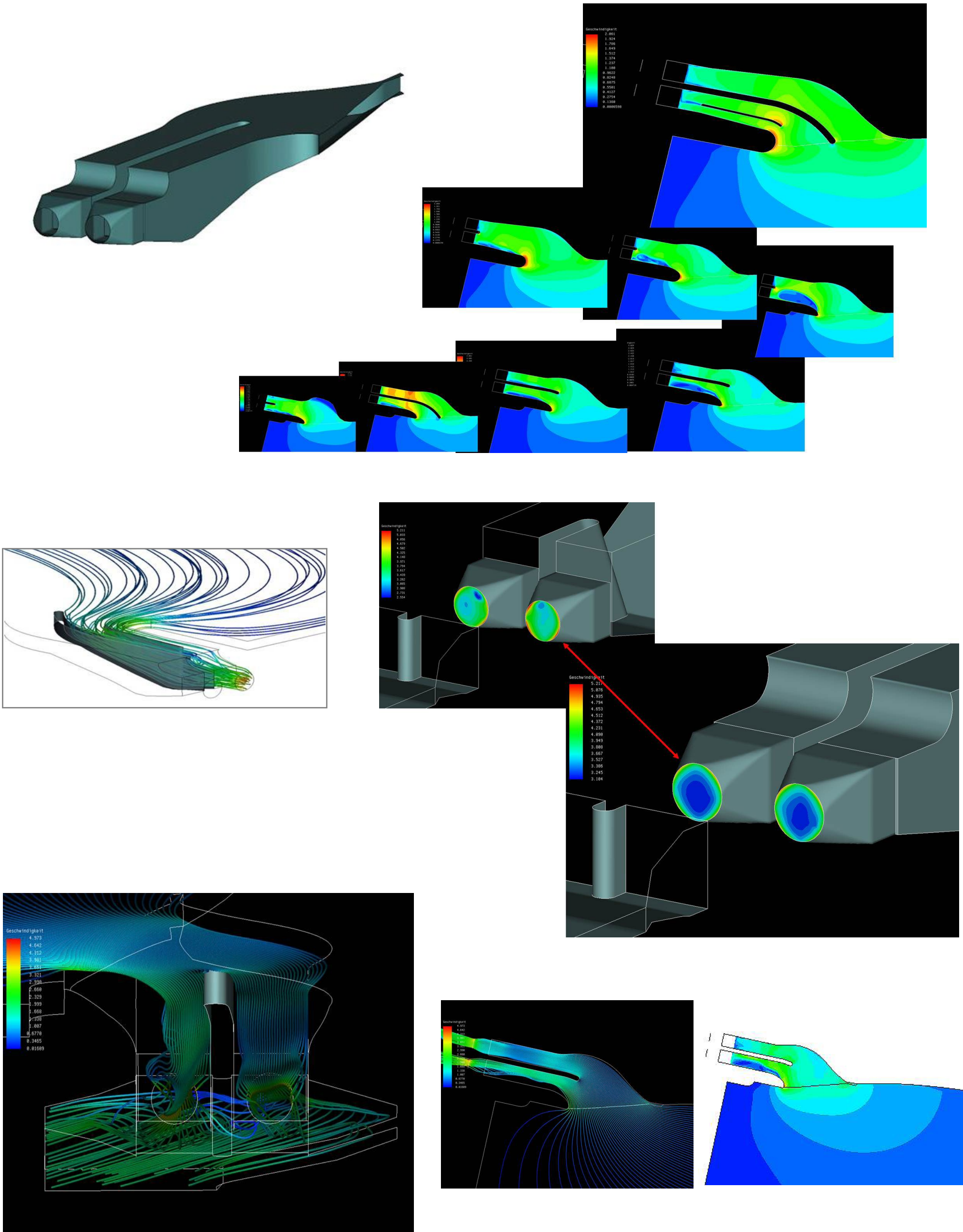
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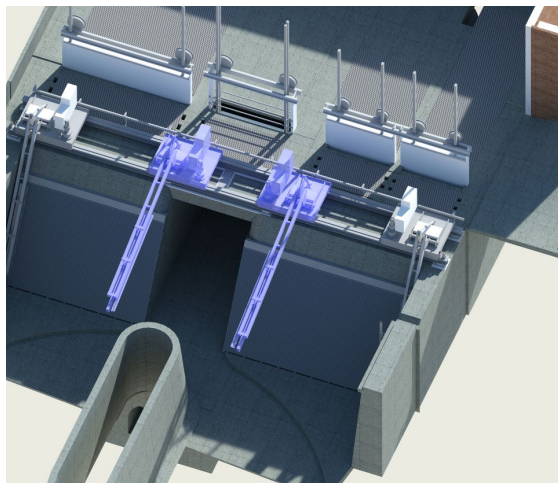
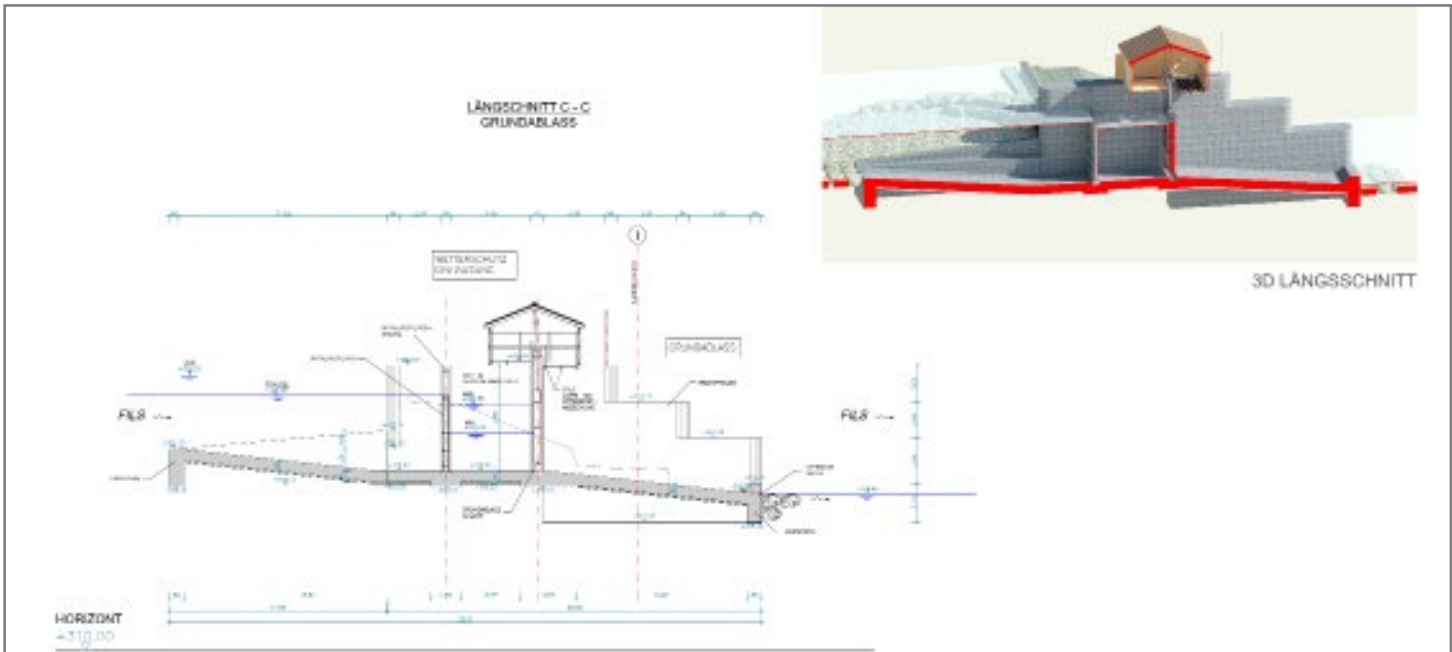
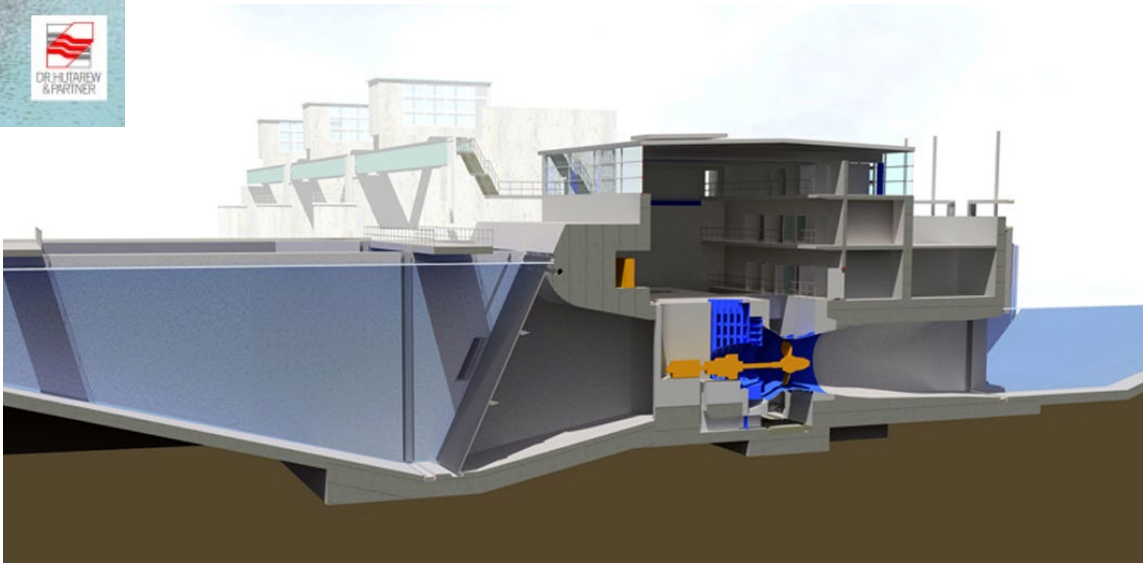
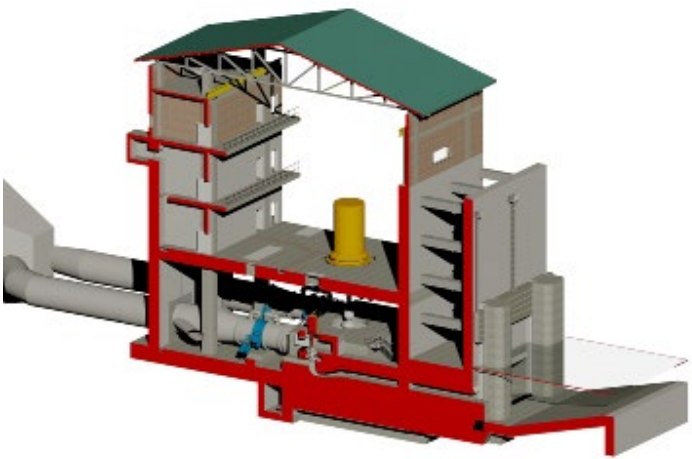
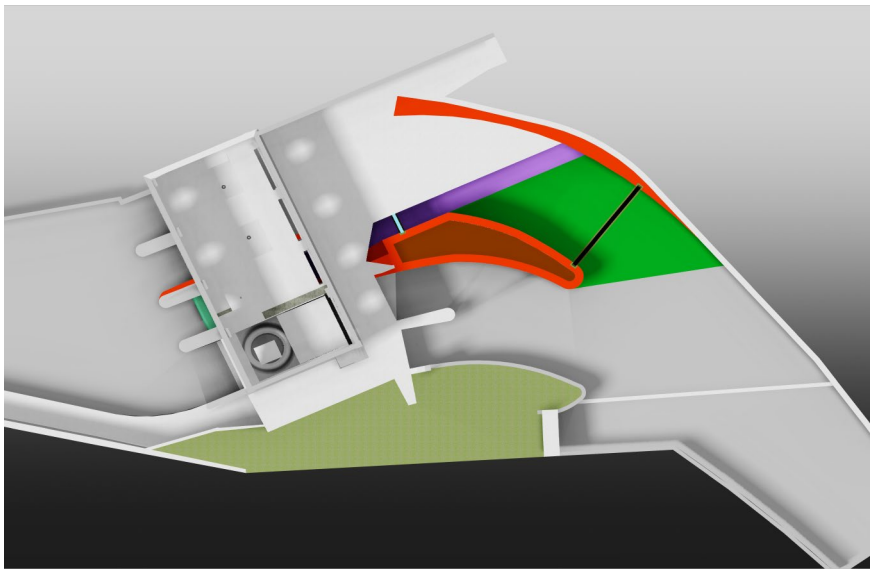
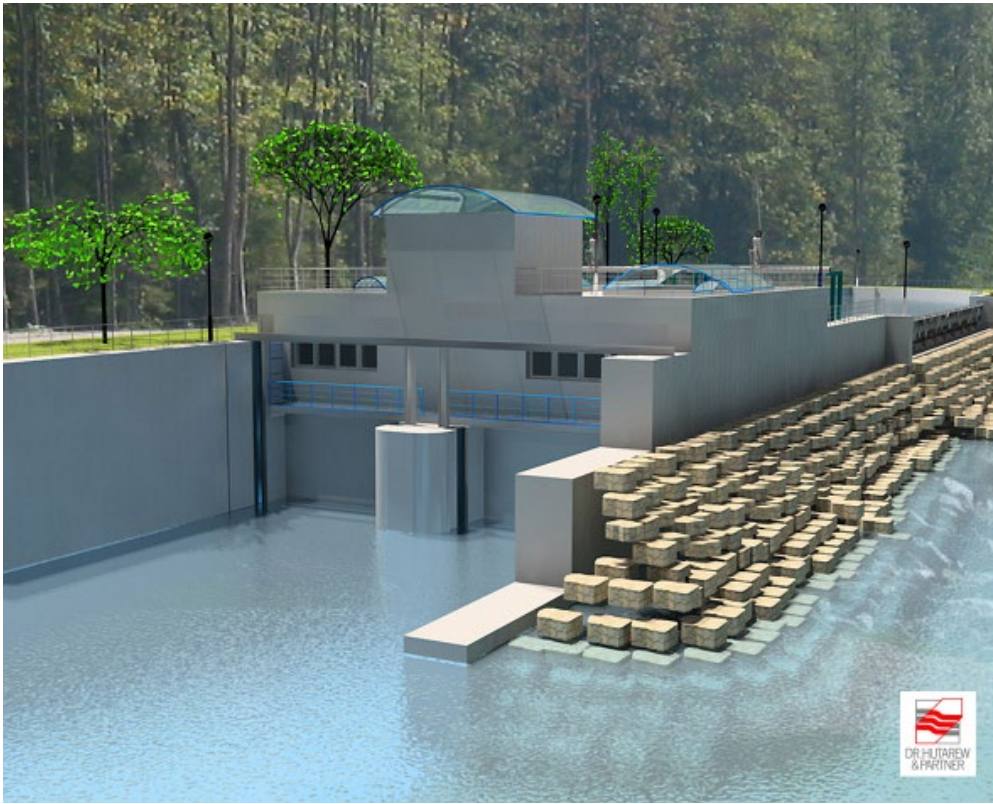
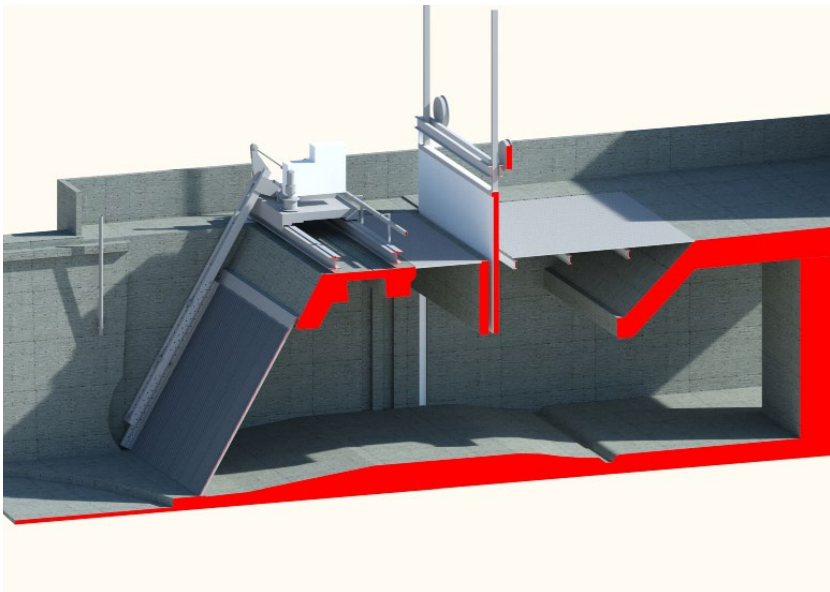
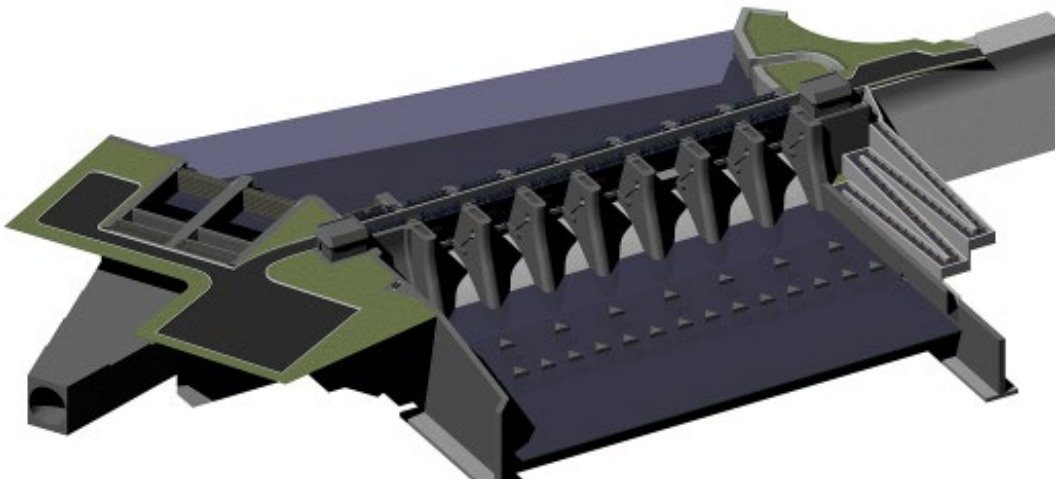
A few impressions...



A few impressions...3D numeric simulation for optimization



A few impressions in 3D





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