



ZOLTÁN SZMODICS

Structural & bridge engineer

E-mail: z.szmodics@gmail.com

Phone: +36-30-2766744

Nationality: Hungarian

Year of birth: 1980

SUMMARY

Professional experience:

20 years of engineering experience specializing in structural analysis and design of various steel and concrete structures, such as:

- Offshore structures
- Structures for offshore installations
- Topside structures and vessels
- Highway and railway bridges
- Metro station
- Lattice towers
- Industrial and office buildings
- Handling equipments
- Offshore lifting
- Concrete foundations
- Retaining walls
- Building technology
- etc.

Knowledge of standards and softwares:

Consteel, Fem-Design, Staad Pro, ProtaStructure, Axis VM, ANSYS, IDEA, MathCAD, Stipla, Colbeam, AutoCAD, Microsoft Office; Eurocode, DNV, Norsok, MSZ, UT, BS-EN;
(Able to adapt quickly to any other code and calculation software.)

WORKPLACES

2023. 06. – present	Specialterv Senior Structural & Bridge Engineer
2020. 09. – 2023. 06.	bim.GROUP Senior Structural Engineer
2020. 03. - 2020. 09.	Self-employed, freelancer
2009. 02. - 2020. 02.	Ch. Stadler Kft. Senior Structural Engineer

2009. 04. – Bowline Engineering AS (Brevik, NO)
2017. 12. Senior Structural Engineer

2015. 06. - Aibel (Asker, NO)
2016. 06. Senior Structural Engineer - Consultant

2014. 09. - Wood Group Mustang Norway (Sandefjord, NO)
2015. 01. Senior Structural Engineer - Consultant

2014. 03. - VARD a Fincantieri company (Brevik, NO)
2014. 07. Senior Structural Engineer - Consultant

2011. 03. – Aibel (Asker, NO)
2013. 06. Senior Structural Engineer - Consultant

2008. 03. - Poka3D Kft
2009. 02. Structural Engineer

2003. 10. – UVATERV ZRT
2008. 02. Structural & Bridge Engineer

EXPERIENCES, REFERENCE WORKS

1. OFFSHORE STRUCTURES

C0810 WHRU Nigeria

Platform for Waste Heat Recover Unit - WHRU [Ch.Stadler Kft, 2019]
- Support structure calculation and detailing for BP project in Nigeria.
- Stress analysis of the 15m Height WHRU

JOHAN SVERDRUP Drilling Platform EPC project

Structural analysis for a new platform [Aibel, 2015 - 2016]
- Calculation and structural design report for secondary steel (Cellar deck)
- Prepare the basic information and structural solutions for vibration analysis.
- Checking of fabrication and detail drawings.

SAFE SCANDINAVIA - Tender Support Vessel

Modification of floating platform [Wood Group Mustang Norway, 2014 - 2015]
- The unit is to be converted to a Tender Support Vessel for mud and cement handling in the North Sea, supporting Statoil's Øseberg Øst platform. This TSV conversion project involves a considerable amount of modifications.
- Calculation and design report for the new support structure for loading station which will be located at aft part of Port side and Starboard side as well.
- Calculation and design report for the new hang off balcony platform (to support the new mud hoses), which will be located at the bow.
- Precalculation of lifting for Mud treatment module. Verification of structural strength of the modul during the supposed lifting condition. Checking of padeye, bulkhead panel with hand calculations.

GUDRUN platform (North Sea)

Structural analysis for a new platform [Aibel, 2011 - 2013]

- Calculation and structural design report for secondary steel (process area - Section 340; Wellbay area - Section 210, 220, 240)
- Static calculations for General Report. (monorails, access platform, lifting lugs)
- Checker of outfitting structures and pipe supports calculation on Gudrun platform made by Singapore office
- Deck study for dropped objects. (calculation according to NORSOK N-004)

DRAUGEN (Norwegian Sea)

Modification of platform [Aibel, 2012]

- Structural analysis check of modification of S61, Hydro cyclone area. Calculations for support frame of new Hydro Cyclone, new bridging access platform and checking the existing hanging access platform.

2. WESSELS & LIFTING OPERATIONS

Lifting calculations

Offshore, inshore and subsea operations [Ch.Stadler Kft, 2011 - 2020]

acc. to DNV and NORSOK

- Ula Platform - turbine lifting (Noble Installation AS)
- Mobile Gas turbine lifting (P18-095 Trucklift)
- Waste heat recover unite C0810_WHRU (CiTECH - UK)
- Bracket for ACS subsea control unit (Client: Kongsberg Maritime AS -Subsea Division)
- Varg - lifting frame and stoppers for generator (Client: SIS Sandefjord AS)

Technip Brasil (13-1054)

Modification of vessel [VARD a Fincantieri company, 2014]

- Establishing general concept of foundation for cable tensioner, gutter, sheaves, towing block and winches. Optimizing structural elements to save weight and design of structural details with hand calculations and ANSYS.

Topaz Installer

Modification of cable laying vessel [Bowline Engineering AS, 2013-2014]

- Verification of structural strength of the tower for laying arms on Topaz Installer vessel. Preparing global static model in STAAD for tower and deck of vessel.

Baskets in BBC Europe

Cable baskets [Bowline Engineering AS, 2012]

- Static analysis and evaluation of different concepts for Cable Baskets on the BBC Europe vessel.
- Optimizing structural elements to save weight and design of structural details according to Eurocode.

Riffgat pull-in bow

Pull-in bow [Bowline Engineering AS, 2012]

- Design of Pull-in bow for installation of cable on seabed for windmill park. Optimizing structural elements and design of structural details.

Bridge elements

Sea transportation (Rotterdam - Oslo) [JHS Engineering AS, 2009-2010]

- Verification of structural strength of the bridge elements during sea transportation. (Østre tangent bridge – Oslo S)

3. BRIDGES

Figgjoelva bridge

Pedestrian bridges (Figgjo, Norway) [SL Mekaniske AS, 2018]

Planing of pedestrian bridges above Figgjoelva river and canal. (Span: 24m and 10m)

Gerald Desmond bridge

Bridge building technology (Long Beach, California, USA) [Structuras AS, 2013-2014]

- Calculation and documentation of bracket. Heavy lifting calculation for Movable scaffolding system and supporting brackets.

Ho Nam bridge, South Korea

Bridge building technology (South Korea) [Structuras AS, 2010-2011]

- Establishing general concept of bracket. Preparing global static model in STAAD for launching. Optimizing structural elements to save weight and design of structural details.

Østre Tanget-Oslo S

Launching of cross-over bridge Østre Tanget (Oslo S) [JHS Engineering AS, 2009-2010]

- Verification of structural strength of the bridge during launching, design and calculation of temporary structures necessary for launching. Calculations involved 13 steps during launching, where structural strength were investigated. Calculations involved ULS and ALS conditions. Global STAAD model for launching system including concrete foundation and foundation piles.

Underpass, overpass bridges

Bridges for highway in Hungary (M3, M35, M43, M5, M7) [UVATERV ZRT, 2003-2008]

- Static calculations and structural design reports for several underpass and overpass bridges according to UT (Hungarian standards for bridges)

Building technology for bridges

Bridges on the rivers Danube, Tisza, East Principal Canal [UVATERV ZRT, 2003-2008]

- Static calculation for technology design of bridge (scaffolding and aids in manufacturing) according to MSZ

„FI 150” bridge beam

Development of „FI 150” bridge beam [Uvaterv Zrt, 2005-2006]

- Development precast prestressed reinforced concrete bridge beams for Ferrobeton Ltd. (span 34.80-44.80m).

Bridge renovations

Renovation of bridges in Hungary [Uvaterv Zrt, 2006-2008]

- Structural analysis of varied railway-, pedestrian bridges according to ÚT

4. **METRO STATION, FOUNDATIONS**

Foundations for lattice towers

Tower foundation all over the world. [Ch.Stadler Kft, 2009- 2019]
Ireland, Norway, Sweden, Ivory Coast, Myanmar

Foundation for bridges

Several pile and Raft foundations for bridges [Uvaterv Zrt, 2003-2009.]

Service tunnel

Service tunnel in Budapest Airport [Uvaterv Zrt, 2009.]

- Static calculation of a service tunnel next abutment of overpass according to UT (Hungarian standards for bridges)

Metro station

Metro station in Kálvin square, Budapest [Uvaterv Zrt, 2008]

- Static calculation of metro station (M4 metro line).
- Concrete structures for underpass and mid deck level (concrete slabs, beams ~3.00m height, columns). Connection structure between two metro line (~40m deep). Support beams of escalators.

Retaining walls

[Uvaterv Zrt, 2003-2009.]

- Design of several wing-, gravity-, and retaining walls.

M7-S48 Passageway

Accessible culvert for wildlife [Uvaterv Zrt, 2003-2004.]

- Underpass at M7 highway. (Sizes: 43.5m x 10.0m x 6.0m)

5. **BUILDING STRUCTURES**

BMW CBS:

Structure Calculation for Car Body Storage building in Debrecen, Hungary. The main dimensions of the building: L=85; B=27m; H=28m

The building consists an automatic storage area and a technology platform area.

The warehouse is a so-called „self-supporting” system (the shelving system also provides the structural frame of the building) It consists of 9 levels.

The net area of the technology part is 2700m² and it consists of 4 levels

BMW CC:

Secondary steel structures. [bim.GROUP 2022.]

Connection design and shop drawing for steel structure of BMW Communication Center in Debrecen, Hungary. (Roof structure, Conveyor belt and Turntable hanged structure, Canopy, Intermediate storey, Secondary steel, etc) Steel structure weight: ~800 tonne

Zalazone project (Reichmetal):

- Vehicle (tank) manufacturing factory. [bim.GROUP 2021.] The main dimensions of the building: L=180m; B=140m; H=13,5m. Secondary steel structures for prefabricated reinforced concrete hall.
- EMC-LCTC building: Three-bay industrial hall for Electromagnetic compatibility Chamber, for Large Climatic Test Chamber and office area.

- Service buildings. (vehicle repairer, vehicle wash, etc) for off-road test zone.

Sig. Halvorsen

Industrial hall with office block [Ch.Stadler Kft. 2019.]

- 2000m2 steel frame structure with HD concrete deck.

Brekkestad Airport

Airport entrance building, Norway [Ch.Stadler Kft. 2019.]

- Steel frame structure with HD concrete deck.

Building extensions

Industrial buildings, Norway [Ch.Stadler Kft. 2018-2020.]

- Structural design for extension of several industrial building in Norway. For examples: Algardhallen, Nutri Bygget, Kvinesdal, etc.

Idrettsbygget - Multipurpose Sports complex

Oslofjord Convention Center [Bowline Engineering AS, 2016-2017.]

- Structural analysis and design report for a 16.000 m2 sport complex. The building includes (1) a Multipurpose hall - Flerbrukshall, (2) a 4 level intermediate building – Mellombygg, and (3) Ice hockey hall – Ishall.

Biltema Hall

Norway [Ch.Stadler Kft. 2015]

- Structural analysis and design report for a 4000m2 hall according to Eurocode.

Forskingsparken – Office building

Roof and Glass portal support structure [Ch.Stadler Kft, 2011-2012.]

- Structural analysis and design report for Truss girdes and portal frames

Golden circle office building

Budapest [Poka3D Ltd, 2008-2009]

- Static calculation of 8000m2 office building according to MSZ.

Warehouse

Esztergom [Poka3D Ltd, 2008-2009]

- Static calculation of 4000m2 room hangar according to MSZ

6. **LATTICE TOWERS**

Radome Support Structures

[Ch.Stadler Kft, 2016 - 2018] For examples:

- Antarctic (TR9 Radome), 25.80 height steel support structure with staircase at Troll research station
- Svalbard (SG50-54 Radome), Diameter of support tower is 9.60m, wind speed: 300km/h

Transmission towers

Structural calculation of transmission towers in Norway and Sweden.

[Starker-Engineering Kft, 2009-2019] For examples:

- Klemetstrud (Norway)
- Torup (Sweden)
- Kongsberg (Norway), etc.

Telecommunication towers

Structural calculation of telecommunication towers In Ireland and Norway.

[*Starker-Engineering Kft, 2009-2019*] For examples:

- Ballyguile, Wicklow (Ireland)
- Lispole 0555 (Ireland)
- Hurdal (Norway)
- Mjuken (Norway)
- etc.

OTHER INFORMATIONS

Education: 1998 - 2003: Budapest University of Technology and Economics
M.Sc Structural Engineer

1994 - 1998: Dr. Mező Ferenc Grammar School

Award: Tierney Clark Award 2010
Member in development of FI-150/44.80 bridge beam,
34.80-44.80m span precast prestressed concrete bridge beams
UVATERV Ltd. was awarded for this new innovative solution.

Volunteer Maasai Academy, Namanga, (Tanzania)
Member for humanitarian mini-project – Foundation for Africa
Building new roof structure for the primary school of Maasai Academy.
Delivering and distributing of humanitarian aid (school supply, clothes, food,
corn) for orphans and Maasai. (10/2013.)

Language:		<i>Speaking:</i>	<i>Reading:</i>	<i>Writing:</i>
	Hungarian	Native	Native	Native
	English	Fluent	Fluent	Fluent

2023.