

THE GLASS ALLIANCE

General Presentation

Glass Alliance [www.glass-alliance.com]

- **Zippe, Horn, Bucher Emhart Glass** and **MSK** formed the **Glass Alliance** to jointly offer and implement for the Glass Container Industry:
 - Complete glass production Lines
 - A global solution
- The **Glass Alliance** will Plan, Install and Support
 - all necessary equipment
 - all necessary services
- The strong coordination, cooperation and information flow between the **Glass Alliance** members is of significant value and benefit for customers.



Products and Services:

- Complete batch plants
 - Filling of raw material silos
 - Raw material storage
 - Dosing, weighing and mixing
 - Electronic control system and process automation
- Factory cullet processing plants
- Ecology glass recycling plants
- Batch and cullet preheating systems
- Glass crushers
- Scraping conveyors
 - Processing of cooling water from the scraping conveyors
- Refurbishing, upgrading and modernisation of existing plants

- Engineering and design
- Installation, commissioning and start-up support
- Maintenance and service support
- Customer training





Products and Services:

- Glass melting furnaces
- Distributor and forehearth
 - Combustion forehearth
 - Electrical forehearth
 - Coloring forehearth
- Burner and combustion stations
 - Gas, Oil or Oxy-Fuel
- Electric control equipment
 - Measurement and control equipment
- Electric boosting systems
- Bubbling systems

- Engineering and design
- Installation, commissioning and start-up support
- Maintenance and service support
- Customer training



Products and Services:

- Gob forming feeders
- Container forming machines
 - NIS machines
 - AIS machines
 - IS machines
 - SIS machines
- Container inspection systems
 - In-line inspection machines
 - Automatic statistical sampling machines
 - Off-line inspection machines
- Installations, commissioning and start-up support
- Production support
- Technical Assistance Agreements (TAA)
- Process know-how support
- Customer training

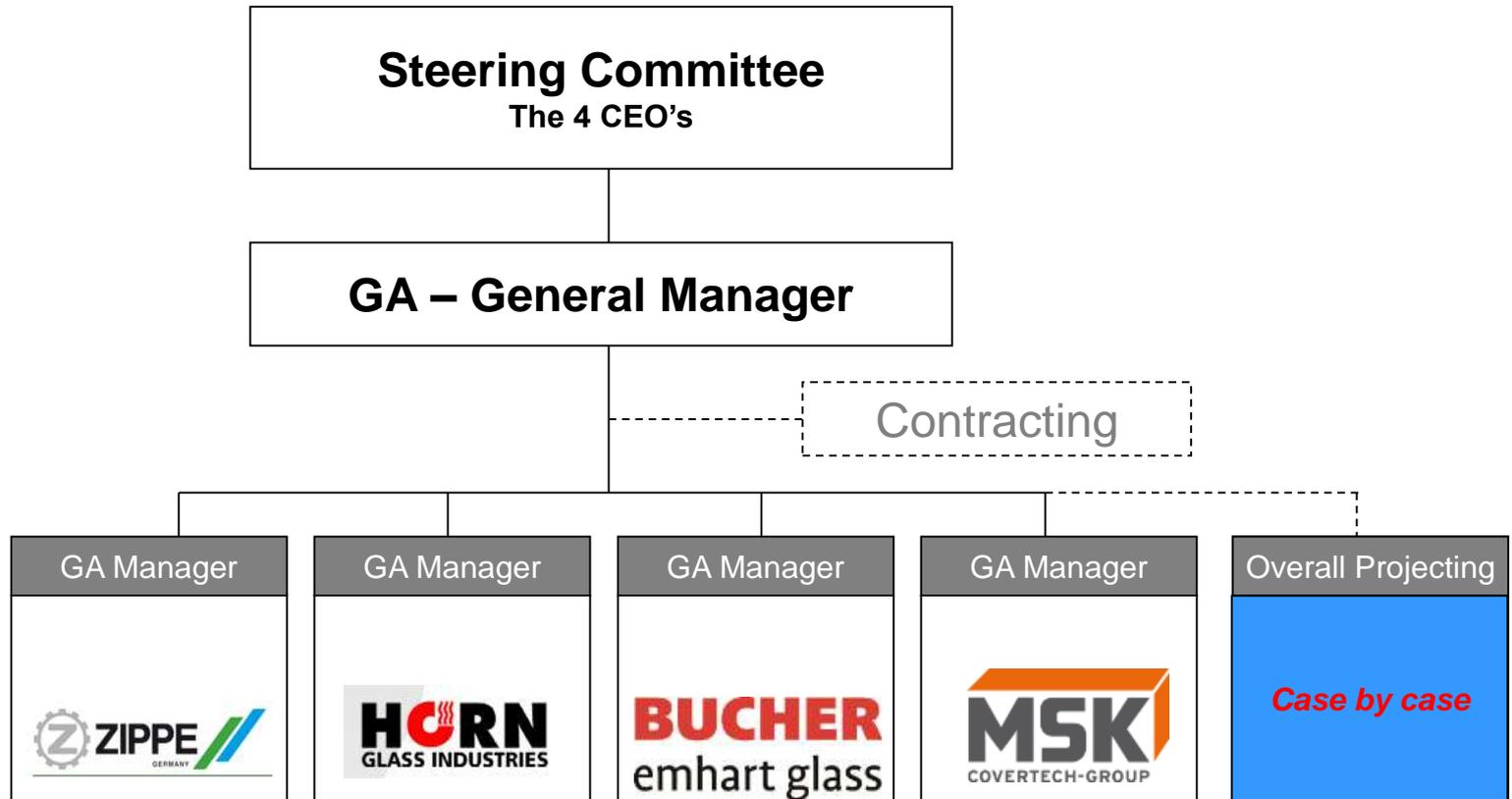
BUCHER
emhart glass



Products and Services:

- Complete cold end equipment from the lehrs to warehouse with different level of automation:
 - Complete Cold End
 - Bottle conveying
 - Palletizing systems and robots
 - Pallet shrink wrapping
 - Pallet conveying
 - Shuttle cars
 - Software systems
 - Accessories like tray erector, labeler, etc.
- Engineering, design and manufacturing
- Installation, commissioning and start-up support
- Maintenance and service support
- Customer training





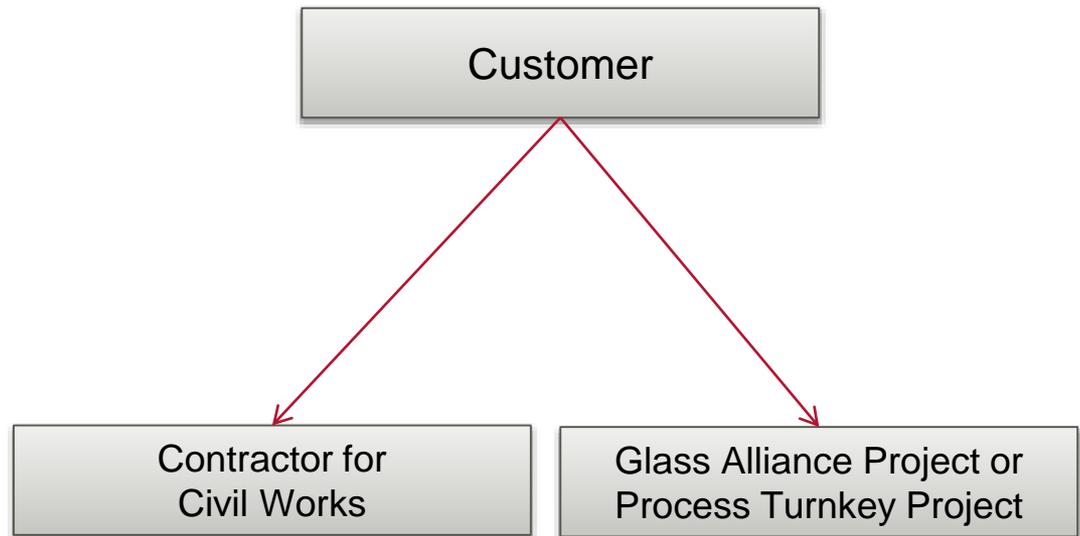
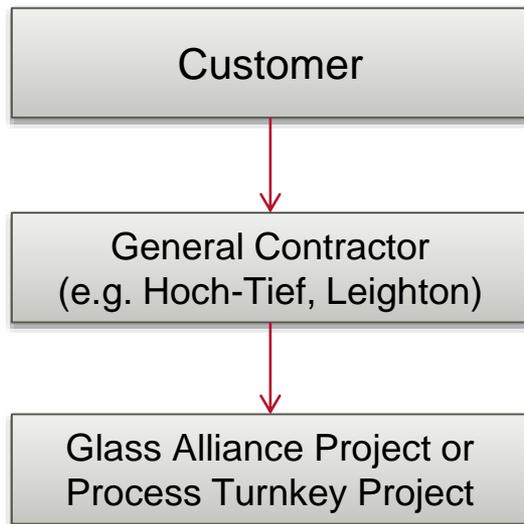
- **Full Turnkey Project:**
 - General Contractor
 - Including Civil Works
 - Including complete Process lines
 - Including Process utilities
 - Including startup- and improvement support (TAA)
 - Including Performance Guarantee

- **Line Turnkey Project**
 - General Contractor
 - **Excluding** Civil Works
 - Including Process lines
 - Including Process utilities
 - Including startup- and improvement support (TAA)
 - Including Performance Guarantee

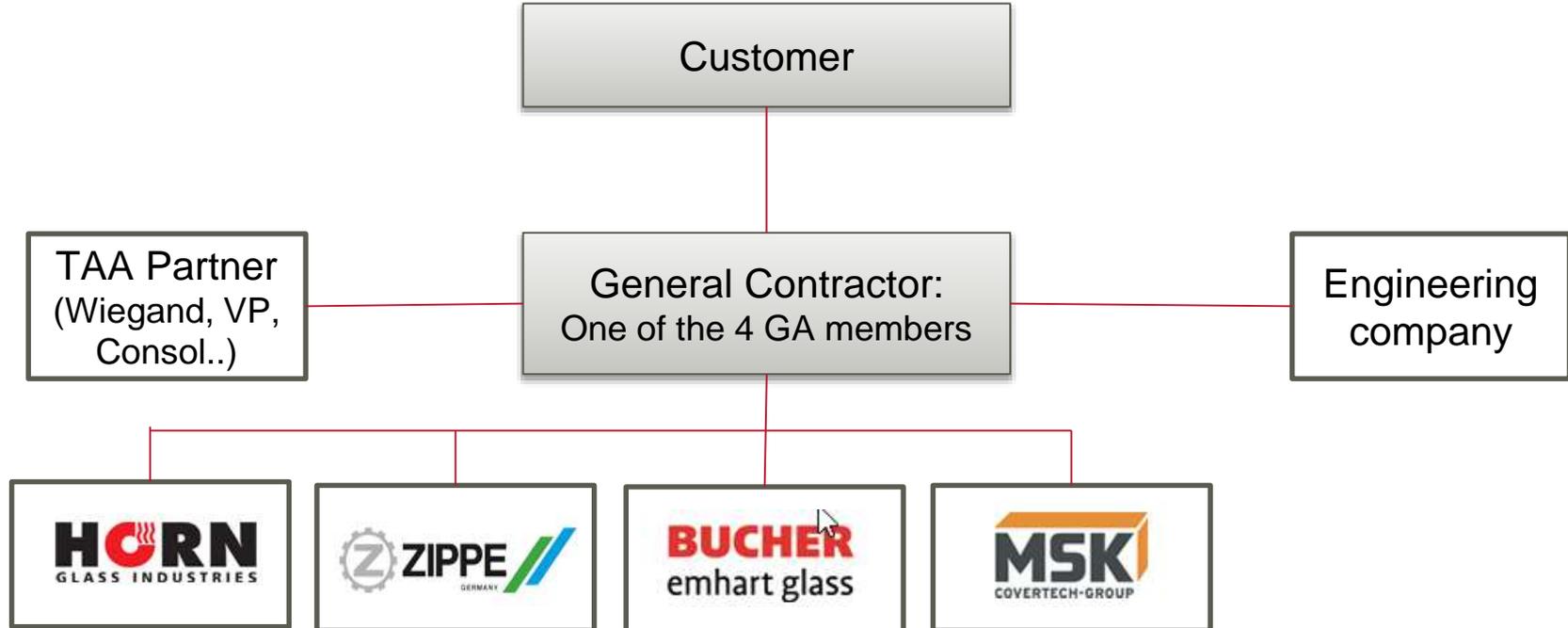
- **Glass Alliance Project**
 - **No** General Contractor
 - 4 Individual contracts with GA members, 1 contract with engineering partner
 - **Excluding** Civil Works
 - Including complete Process lines
 - Including Process utilities
 - Including startup- and improvement support (TAA) if requested
 - Including Performance Guarantee if requested (only in combination with startup support)
 - Seamless interfaces and coordinated specs guaranteed

Full Turnkey Approach

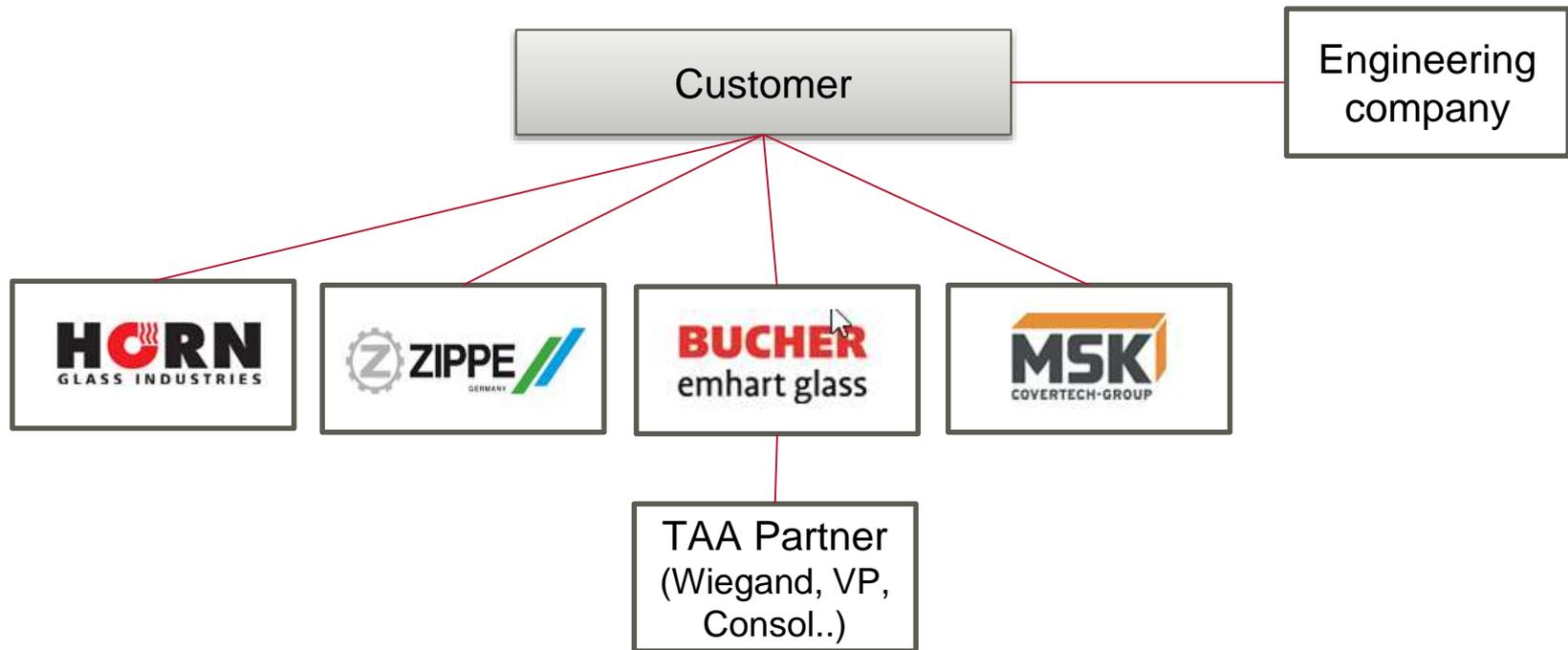
- Full Turnkey approach is a **NO-GO** for the Glass Alliance
- If the customer insists on it, there are 2 options:

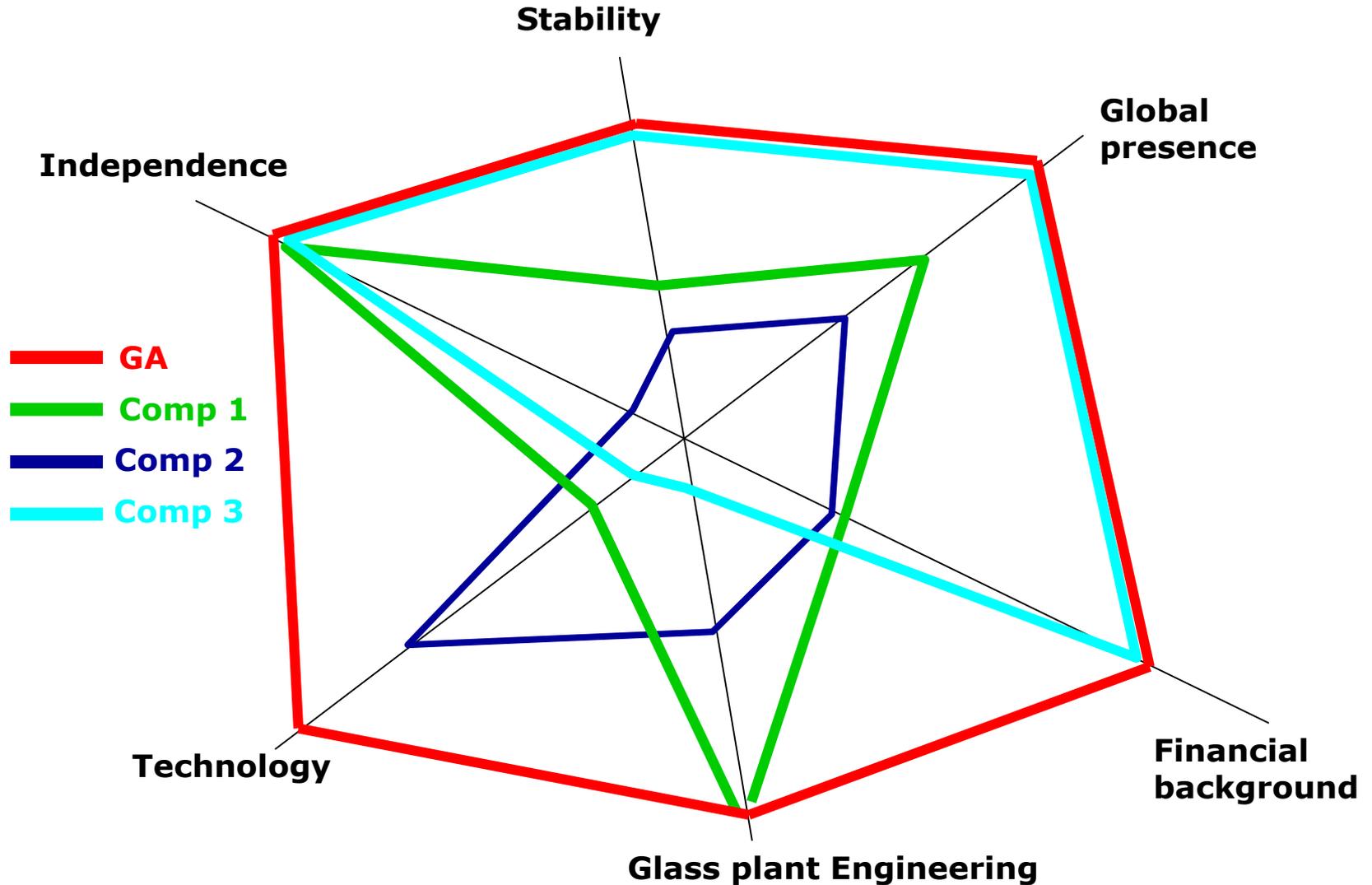


Line Turnkey Project One of the GA Partners is General Contractor



Glass Alliance Project





Glass Alliance – Operational Status

- The **Glass Alliance** was founded by handshake Dec 15, 2009
- Operational organization is established since June 2010
- 2 projects won together by the four members of the GA and implemented successfully:
 - NAMPAK – South Africa – 2012/2014
 - VIDROPORTO – Brazil – 2013/2014

How to contact the Glass Alliance

- There are several ways to contact the **Glass Alliance**:
 - Through any of the contacts to a GA member you may already have
 - By E-mail or phone, see <http://www.glass-alliance.com/contact.html>

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Thanks for your attention