

**DIGITAL MANUFACTURING &**

**CONDITION MONITORING**

**OF COMPOSITES PRESSURE VESSELS SYSTEMS**



**ENABLING SAFE, CONNECTED AND INTELLIGENT**

**HYDROGEN STORAGE & DISTRIBUTION**

BUSINESS PLAN 2023 – 2032  
INDUSTRYA 28/03/23

# COM&SENS MAKES SENSE !

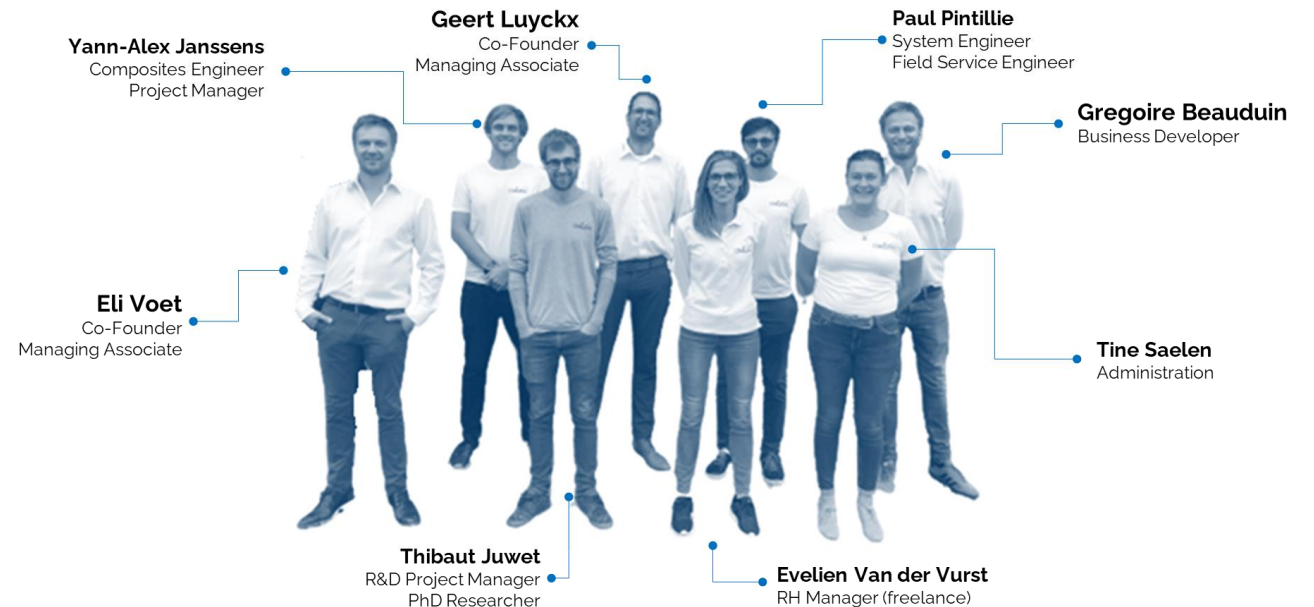
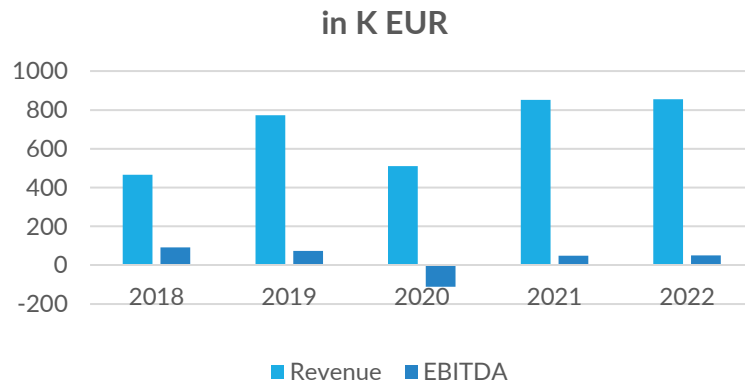
## Com&Sens stands for Composites & Sensing



Proud Technology Spin-off  
Ghent University Material Science and Engineering



FOUNDED IN 2012 BY GEERT LUYCKX & ELI VOET



### Shareholders

- Eli Voet
- Geert Luyckx
- Gregoire Beauduin

# MANAGEMENT TEAM

## ENTREPRENEURS



### Eli VOET

#### Co-Founder & Managing Associate

**2004**

Graduated with award as Electromechanical Engineer

**2006**

Postgraduate study within an Erasmus / Socrates program the University of applied science in Jena, Germany.

**2011**

PhD degree in Engineering at the Department of Material Science and Engineering at Ghent University.

Thesis "In-situ Deformation Monitoring of Aerospace Qualified Composites with Embedded Improved Draw Tower Fibre Bragg Gratings"

**2012**

Scientific consultant and project manager for FBGS and FOS&S.

CEO of Geoptex (not longer active)

**2012**

**Founded Com&Sens with fellow associate Geert Luyckx**

**Current scope of responsibilities**

R&D, Human Resources, Finance, Technical Sales, Projects & Operations, Lead Service Engineer



### Geert LUYCKX

#### Co-Founder & Managing Associate

**2003**

Graduated as a Master of Science in mechanical engineering

**2009**

PhD degree in Engineering at the Department of Material Science and Engineering at Ghent University;  
Thesis : "Multi-axial strain monitoring of fibre reinforces thermosetting plastics using embedded highly birefringent optical fibre Bragg sensors".

**2010**

Post-doctoral researcher at the Department of Material Science and Engineering at Ghent University

**2012**

**Founded Com&Sens with fellow associate Eli Voet,**  
acting part time

**2016**

Support Com&Sens full time

**Current scope of responsibilities**

Collaborative R&D, Technical Sales, Projects & Operations, Lead Service Engineer



### Gregoire BEAUDUIN

#### Business Developer & Managing Associate

**1998**

Numerous sales-oriented roles in diverse industries

**2001**

Corporate Account Manager for Hewlett Packard

**2006**

Career change, self-education on composites, acting as independent composites technician & project manager

**2007**

Founder & CEO of BE COMPOSITES sa

**2011**

Technology transfer project manager EU project

**2012**

Managing Associate for Mecasolutions SPRL  
3D scanning quality control, reverse engineering

**2014**

Sales executive at Jacquet Metals

**2016**

Sales & Project Manager at JD'C Innovation SAFS  
(composites structures design & manufacturing)

**2019**

**Joined Com&Sens as Business Developer**

**Current scope of responsibilities**

Sales & Business Management, Finance, Marketing, Sales administration,



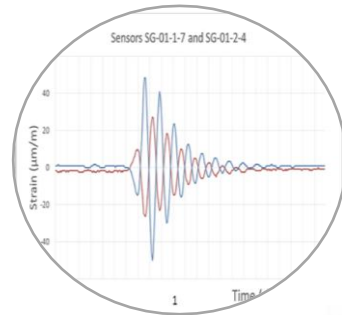
# MARKET - CONTEXT

## INDUSTRIES OF THE FUTURE NEED DATA & H<sub>2</sub> CAPACITY



### Need for (Sensor) Data.

- Industrial Internet of Things
- Machine Learning
- Industrial AI
- Structural Health Monitoring
- Predictive Maintenance
- Digital Twins



### Need for H<sub>2</sub> Distribution & Storage capacity

- Hydrogen Supply Chain
- Automotive
- Aerospace
- Space
- Marine
- Rail
- Renewables

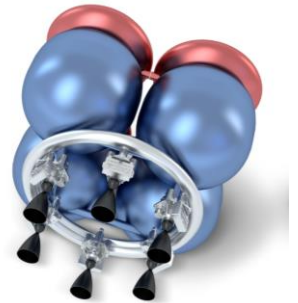
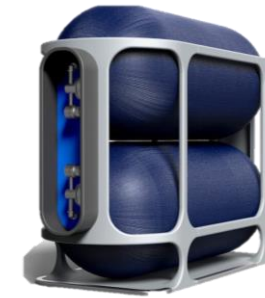
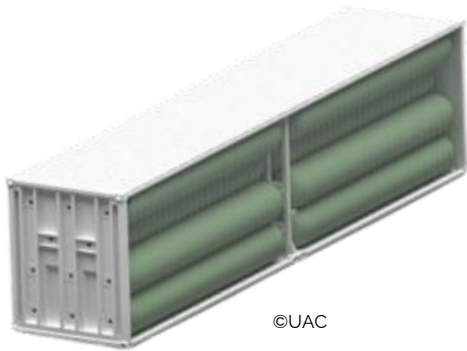




# TARGET MARKET

## H<sub>2</sub> STORAGE & DISTRIBUTION SYSTEMS

**TARGET AUDIENCE** Designers, Manufacturers, Operators of **H<sub>2</sub> Storage & Distribution Systems**



## TRACTION – SALES PIPELINE

### Active Customers

- Noble Gas systems \* (US)
- Umoe AC \* (NOR)
- Plastic Omnium \* (BE-FRA)
- Dawn Aerospace (NL)
- Engie \*(BE)
- European Space Agency

### Negotiating

- Universal Hydrogen (US)
- Blackwave GmbH (GER)
- Infinite Composites (US)
- Hydrogen Storage.nl (NL)
- Tomark (IPCEI) \* (SVK)
- Gradel (LUX)
- Covess (BE)
- Air Liquide (FRA)
- NPROXX (GER)

### Evaluating

- Hexagon (GER)
- Faurecia (FRA)
- Peak Technology (AUT)
- CTC (Airbus) (GER)
- Adamant Composites (GRE)
- MT Aerospace (GER)
- Technip FMC \* (NOR)

### Interest (NDA)

- Edag (GER)
- Steelhead (US)
- CNES (FRA)
- NCC (UK)
- Lockheed Martin (US)
- Linde (GER)
- B&T Composites (GRE)
- CMB tech (UK)
- Avio (IT)

\* Letter of Support available

# PROBLEM

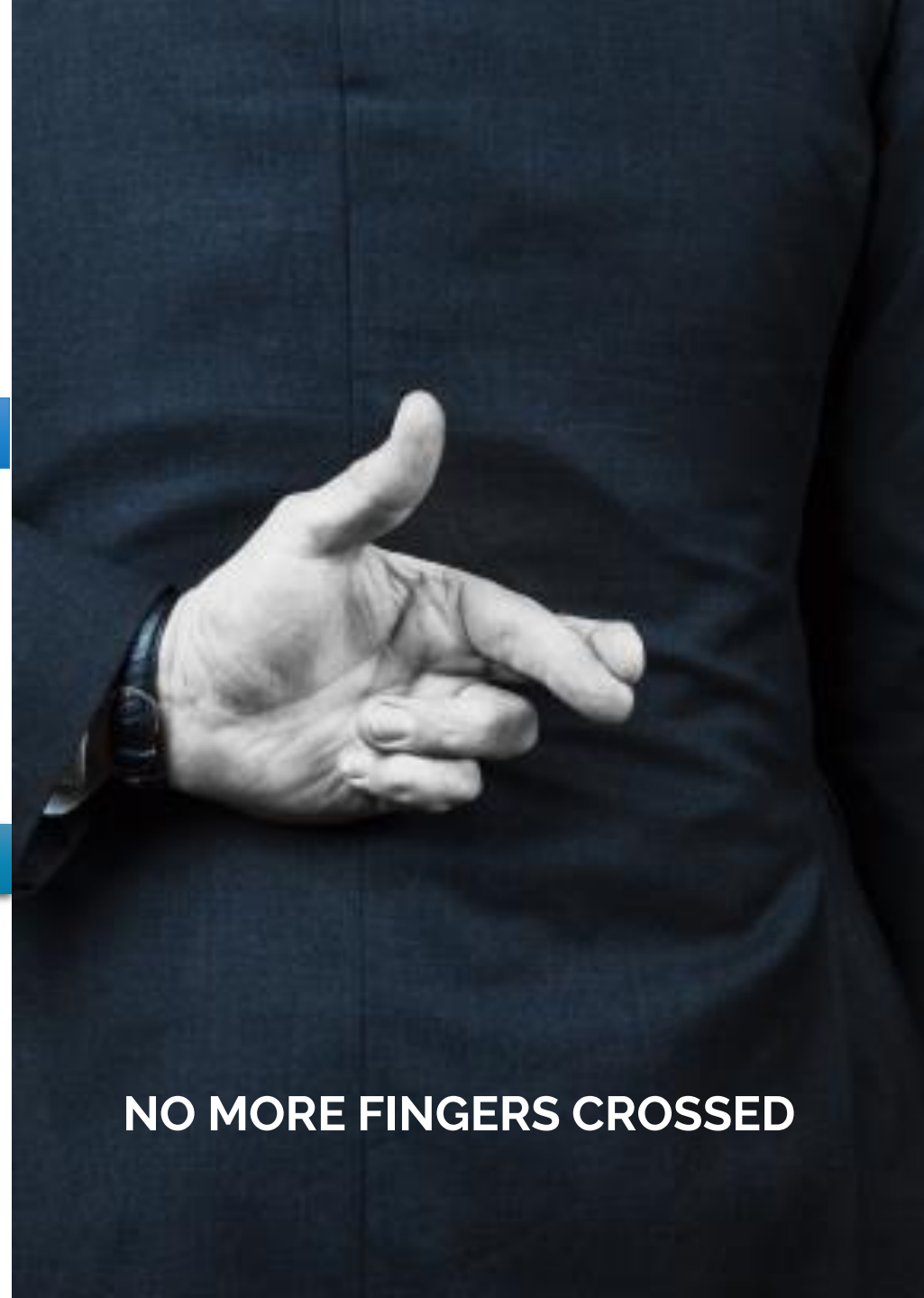
## H<sub>2</sub> COMPOSITES PRESSURE VESSELS STORAGE & DISTRIBUTION SYSTEMS

### DESIGNERS & MANUFACTURERS

- **Trade-off cost vs risks in design, certification & MAIT**
- Process variability restraining ramp up
- **Development cost** & time (speed to market)
- Safety Factors & Certifications **costs**

### OPERATORS, OWNERS, OEM, USERS

- **No Traceability & part history**
- Safety rely on standards, Impact of failure ?
- No failure prediction or damage detection tools
- **High (re)certification costs & downtime**



**NO MORE FINGERS CROSSED**

# SOLUTION

## FIBER OPTIC SENSORS GENERATING LIFECYCLE DATA INSIGHTS

### DESIGNERS & MANUFACTURERS

- **Optimize** designs with in-situ & service life data
- **Digitize** process & quality control parameters
- **Lower safety factors**
- Increase process **performance** (less trials & errors)

### OPERATORS, OWNERS, OEM, USERS

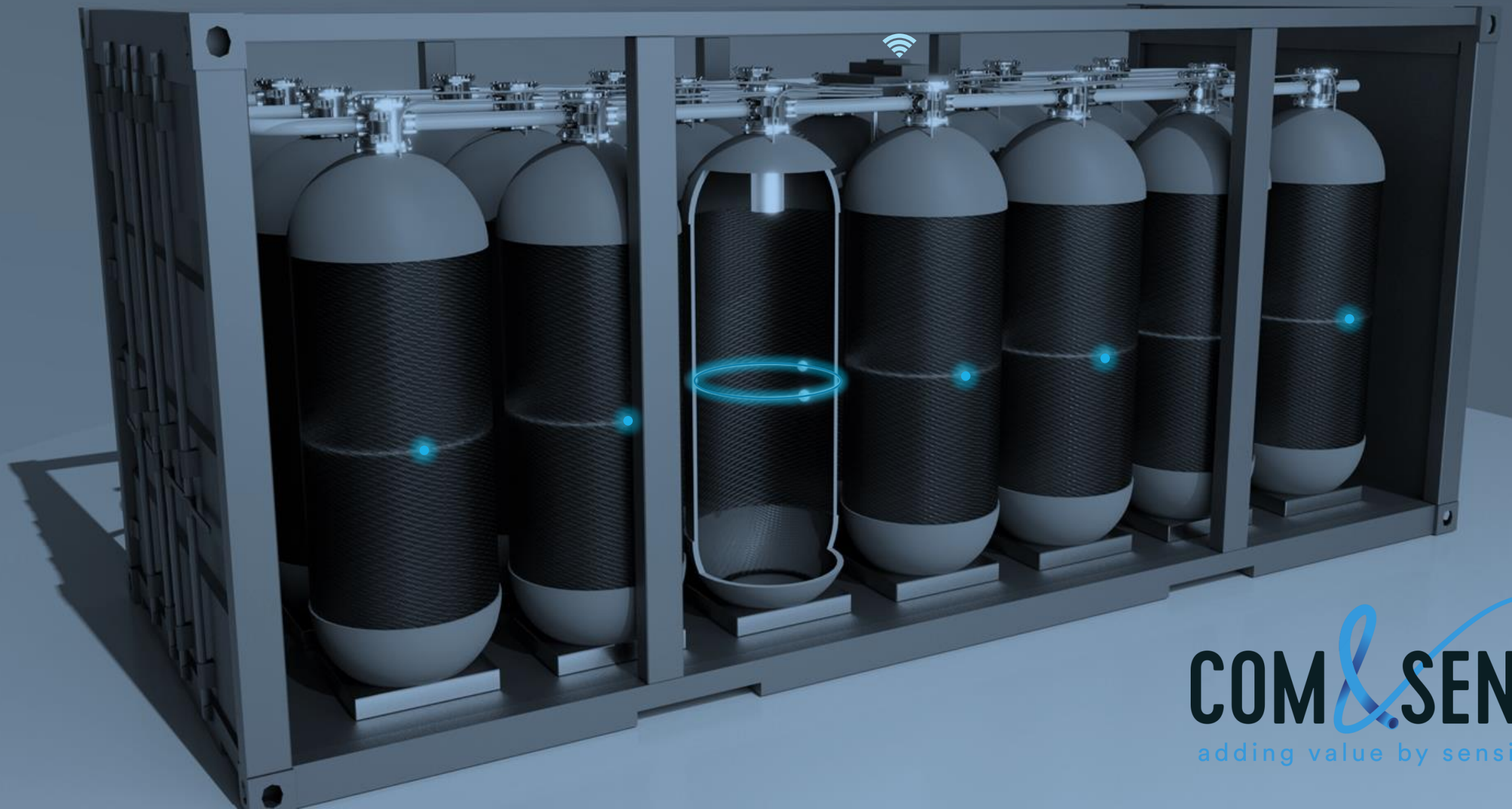
- **Enable digital traceability & part history**
- Prevent failure & detect damage (increase safety)
- Enable predictive maintenance
- **Enable continuous certification**



**DIGITAL LIFECYCLE FINGERPRINT**



# COM&SENS MAKES SENSE

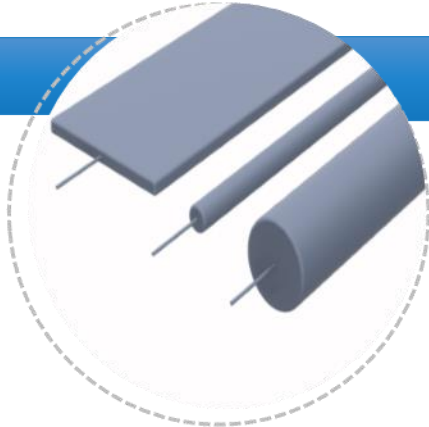


**COM&SENS**  
adding value by sensing



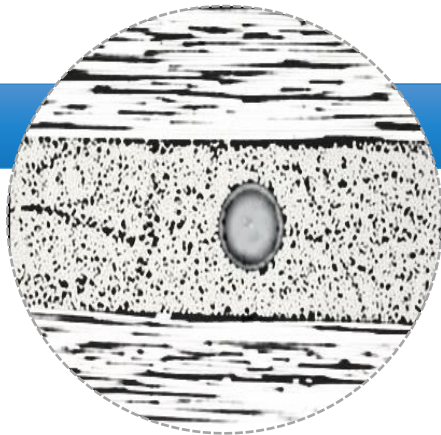
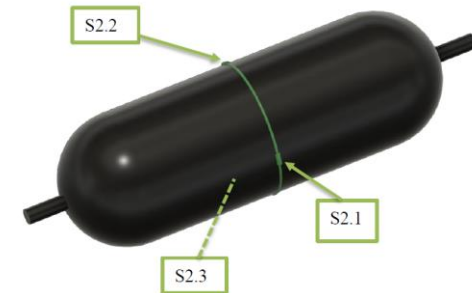
# UNIQUENESS

## COM&SENS STANDS FOR COMPOSITES & SENSING



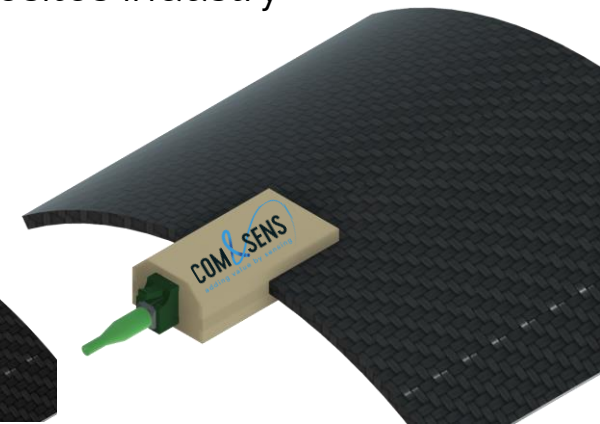
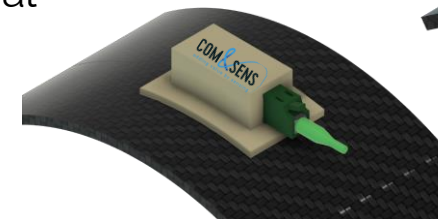
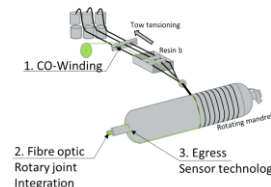
### SURFACE MOUNTING COMPOSITES REINFORCED SENSORS - FSR

- **Proven** robust and cost-efficient **methodology** for sensing on structures
- In-house **production capacity**
- **Versatility** in applications and environments
- Potential to **license** installation methodology
- Potential to productize for sensors vendors



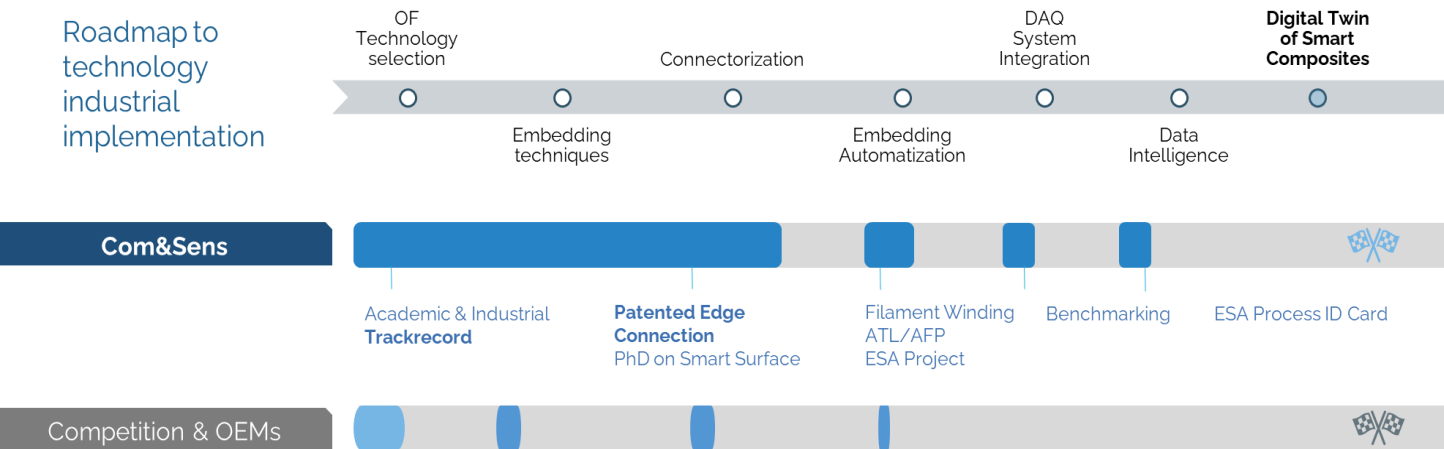
### SENSOR EMBEDDING & CONNECTION TECHNOLOGIES FOR COMPOSITES

- Unrivalled track record & acknowledge expertise in the composites industry
- **Patented game-changing technologies (US 10466419)**
- R&D on automation & industrialization
- Supported by **ESA**, Vlaio, PhD & application **market leaders**
- Technology and model scalability potential



# COMPETITION

## WE ARE FRONTRUNNERS



- TEAM COMPOSITES EXPERTISE**

Combination of academic research with industrial track record

- FBG EMBEDDING EXPERTISE**

In filament winding, afp/atl, (x)rtm, prepreg, pultrusion, infusion, braiding

- GAME CHANGING IP**

Frontrunning patented technology for post process reconnection of sensors

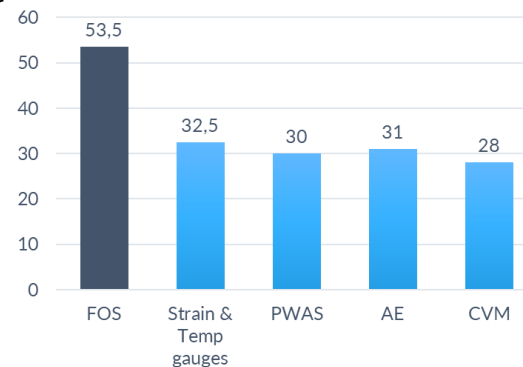
- FILAMENT WINDING EXPERTISE**

Unrivalled trackrecord and R&D on industrialization technologies

## TECHNOLOGY FIT FOR PURPOSE

FOS (FBG Fiber Optic Sensors) leads the Airbus benchmarks for SHM of composites (aero)space structures

SHM Technology Decision Matrix Results



## COMPETITION LANDSCAPE

Competitor	R&D, Prototyping	MAIT Monitoring	In-Service SHM	Comment
B Sens				Focussing on system development and other industries
BAM				Research Center
FiberSail				Wind Industry focus. Potential collaboration on FSR
HBK				Market leader in sensors (not only FBG) and systems
Insensys				Wind Industry focus
Luna				Market leader in sensors (not only FBG) and systems
In Factory				MAIT monitoring only. An Airbus company
Pixel sur Mer				Focussing on yacht racing applications
PhotonFirst				Main Competitor but bound with internal system development
Polytec				Wind Industry only with surface mounting sensors
Quantum SHM				One Man company, is business a focus ?
Sense In				French startup funded with industrial perspectives
Somni Solutions				Mainly delivering transducers, but are opportunistic
Synthesis				Low versatility, Only MAIT monitoring
Touch Sensity				MAIT capable ? In process integration cost ?

# OFFER

ADDING VALUE AT EACH STEP OF A **COMPOSITES STRUCTURE LIFECYCLE**



## R&D, Prototyping

Design & Process Validation

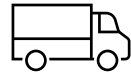


## Manufacturing, Assembly, Integration & Testing (MAIT)

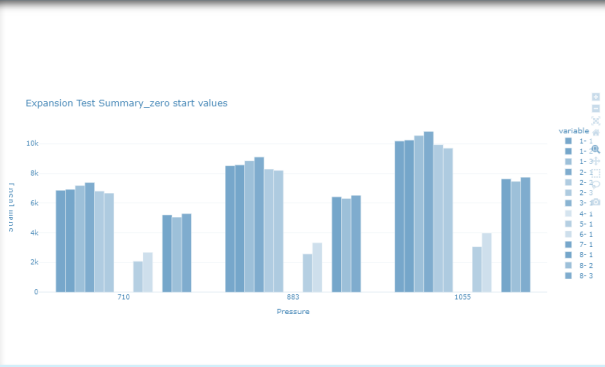


## In-Service

Condition Monitoring



**Actionable data reports &**  
software of design, materials &  
process parameters.



**Actionable datasets** & software  
of MAIT parameters for  
integration in external datapool.



**Actionable datasets** of service  
condition for integration in  
external datapool.



**DESIGNERS & MANUFACTURERS**

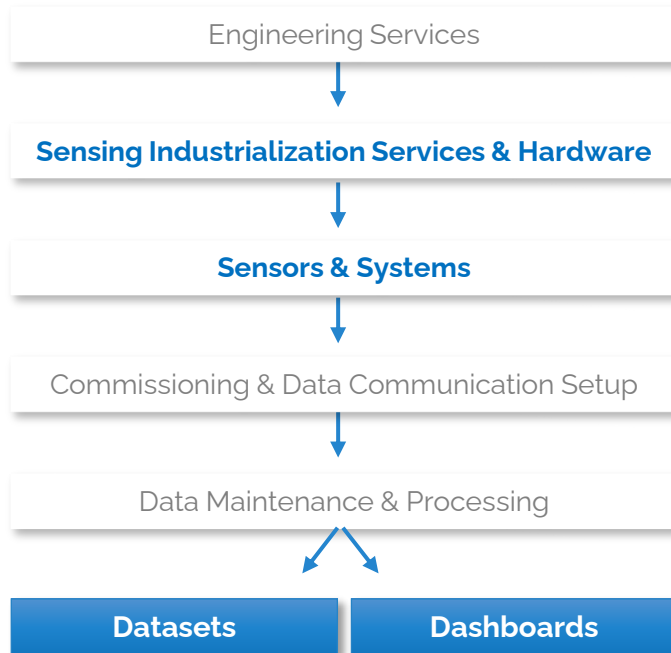
**OPERATORS, OEM, USERS**



## GENERIC CONTAINER BREAKDOWN & SALES FORECASTS



## SALES FORECAST ASSUMPTIONS



per production line	70-80 K EUR
---------------------	-------------

per container	25 – 45 K EUR
---------------	---------------

per year	3 – 6 K EUR
----------	-------------

15 years | 45 – 90 K EUR

potential / container 70 – 135 K EUR

hypothesis	
# of CPV per container	50
# of FBG per CPV	3
# of FBG per container	150
# of cycles / datasets / year	200
# years lifetime	15

Type 1 Container		Type 2 Container		Type 3 Module	
Surface Mounted 11 CPV/Container		Embedded Sensors 50 CPV/Container		Embedded Sensors 4 CPV/Container	
SCENARIO 1	SCENARIO 2	SCENARIO 1	SCENARIO 2	SCENARIO 1	SCENARIO 2
1	1	0	0	0	0
6	12	5	5	8	8
12	16	10	30	32	64
20	30	20	30	64	240
30	50	30	50	160	320
50	50	50	50	320	640
60	60	80	80	640	960
60	60	80	80	960	1250
60	60	100	100	1.440	1.440
60	60	120	120	1.800	1.800

# FINANCIALS

## INCOME STATEMENT SCENARIO 1



"Com&Sens" Income Statement Currency: EUR	2023 Total	2024 Total	2025 Total	2026 Total	2027 Total	2028 Total	2029 Total	2030 Total	2031 Total	2032 Total
Sales	1.213.033	1.153.300	1.484.820	1.959.208	3.244.128	5.887.116	9.719.784	12.517.416	17.357.436	22.703.556
Cost of goods sold	(367.286)	(459.703)	(717.924)	(1.146.496)	(1.989.336)	(3.580.632)	(5.874.720)	(7.277.640)	(9.911.292)	(12.704.808)
<b>Gross margin</b>	<b>845.747</b>	<b>693.597</b>	<b>766.896</b>	<b>812.712</b>	<b>1.254.792</b>	<b>2.306.484</b>	<b>3.845.064</b>	<b>5.239.776</b>	<b>7.446.144</b>	<b>9.998.748</b>
<b>Gross margin %</b>	<b>69,72%</b>	<b>60,14%</b>	<b>51,65%</b>	<b>41,48%</b>	<b>38,68%</b>	<b>39,18%</b>	<b>39,56%</b>	<b>41,86%</b>	<b>42,90%</b>	<b>44,04%</b>
<b>Operating expenses</b>	-	-	-	-	-	-	-	-	-	-
Sales & marketing	(17.375)	(17.723)	(66.077)	(67.398)	(68.746)	(70.121)	(143.524)	(145.674)	(147.861)	(150.083)
Research & development	(86.118)	(92.715)	(100.782)	(110.708)	(122.986)	(138.241)	(157.265)	(181.065)	(210.913)	(248.427)
General & administration	(792.200)	(835.924)	(908.507)	(1.051.170)	(1.071.352)	(1.092.575)	(1.256.511)	(1.431.454)	(1.459.186)	(1.488.311)
<b>Total operating expenses</b>	<b>(895.693)</b>	<b>(946.361)</b>	<b>(1.075.365)</b>	<b>(1.229.276)</b>	<b>(1.263.084)</b>	<b>(1.300.937)</b>	<b>(1.557.301)</b>	<b>(1.758.193)</b>	<b>(1.817.960)</b>	<b>(1.886.821)</b>
<b>EBITDA (earnings before interest tax depreciation and amortisation)</b>	<b>(49.946)</b>	<b>(252.764)</b>	<b>(308.469)</b>	<b>(416.564)</b>	<b>(8.292)</b>	<b>1.005.547</b>	<b>2.287.763</b>	<b>3.481.583</b>	<b>5.628.184</b>	<b>8.111.927</b>
<b>EBITDA margin %</b>	<b>-4,12%</b>	<b>-21,92%</b>	<b>-20,77%</b>	<b>-21,26%</b>	<b>-0,26%</b>	<b>17,08%</b>	<b>23,54%</b>	<b>27,81%</b>	<b>32,43%</b>	<b>35,73%</b>
Subsidy / Grants	-	-	-	-	-	-	-	-	-	-
Depreciation and amortisation	(67.154)	(69.975)	(52.454)	(52.100)	(52.100)	(31.550)	(29.500)	(2.000)	(2.000)	(2.000)
<b>Earnings before interest and tax (EBIT)</b>	<b>(117.100)</b>	<b>(322.739)</b>	<b>(360.923)</b>	<b>(468.664)</b>	<b>(60.392)</b>	<b>973.997</b>	<b>2.258.263</b>	<b>3.479.583</b>	<b>5.626.184</b>	<b>8.109.927</b>
Interest	-	-	-	-	-	-	-	-	-	-
<b>Financial cost</b>	-	-	-	-	-	-	-	-	-	-
<b>Earnings before tax (EBT)</b>	<b>(117.100)</b>	<b>(322.739)</b>	<b>(360.923)</b>	<b>(468.664)</b>	<b>(60.392)</b>	<b>973.997</b>	<b>2.258.263</b>	<b>3.479.583</b>	<b>5.626.184</b>	<b>8.109.927</b>
Tax	-	-	-	-	-	-	(475.610)	(869.896)	(1.406.546)	(2.027.482)
<b>Net result</b>	<b>(117.100)</b>	<b>(322.739)</b>	<b>(360.923)</b>	<b>(468.664)</b>	<b>(60.392)</b>	<b>973.997</b>	<b>1.782.653</b>	<b>2.609.687</b>	<b>4.219.638</b>	<b>6.082.445</b>

# FINANCIALS

## CASH FLOW STATEMENT SCENARIO 1



"Com&Sens" Cash Flow Statement	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Currency: EUR	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
<b>Earnings before interest and tax (EBIT)</b>	<b>(117.100)</b>	<b>(322.739)</b>	<b>(360.923)</b>	<b>(468.664)</b>	<b>(60.392)</b>	<b>973.997</b>	<b>2.258.263</b>	<b>3.479.583</b>	<b>5.626.184</b>	<b>8.109.927</b>
Depreciation and amortisation	67.154	69.975	52.454	52.100	52.100	31.550	29.500	2.000	2.000	2.000
Change in working capital	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax	-	-	-	-	-	-	(475.610)	(869.896)	(1.406.546)	(2.027.482)
<b>Operational cashflow</b>	<b>(49.946)</b>	<b>(252.764)</b>	<b>(308.469)</b>	<b>(416.564)</b>	<b>(8.292)</b>	<b>1.005.547</b>	<b>1.812.153</b>	<b>2.611.687</b>	<b>4.221.638</b>	<b>6.084.445</b>
(Des)investments	(216.500)	(30.000)	(187.500)	-	-	-	-	-	-	-
<b>Investment cashflow</b>	<b>(216.500)</b>	<b>(30.000)</b>	<b>(187.500)</b>	-	-	-	-	-	-	-
Other changes in equity	-	-	-	-	-	-	-	-	-	-
Change in interest bearing debt	266.446	282.764	495.969	416.564	8.292	(1.005.547)	(464.489)	-	-	-
<b>Financial cashflow</b>	<b>266.446</b>	<b>282.764</b>	<b>495.969</b>	<b>416.564</b>	<b>8.292</b>	<b>(1.005.547)</b>	<b>(464.489)</b>	-	-	-
<b>Total cashflow</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.347.664</b>	<b>2.611.687</b>	<b>4.221.638</b>	<b>6.084.445</b>
Cash beginning of period	-	-	-	-	-	-	-	1.347.664	3.959.351	8.180.989
Total cashflow	-	-	-	-	-	-	1.347.664	2.611.687	4.221.638	6.084.445
<b>Cash end of period</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.347.664</b>	<b>3.959.351</b>	<b>8.180.989</b>	<b>14.265.434</b>



# FINANCIALS

## INCOME STATEMENT SCENARIO 2



"Com&Sens" Income Statement Currency: EUR	2023 Total	2024 Total	2025 Total	2026 Total	2027 Total	2028 Total	2029 Total	2030 Total	2031 Total	2032 Total
Sales	1.213.033	1.388.164	2.574.876	3.427.564	5.687.196	8.068.200	10.027.584	12.736.296	17.528.436	22.771.956
Cost of goods sold	(367.286)	(581.323)	(1.462.332)	(2.006.404)	(3.405.540)	(4.655.976)	(7.206.060)	(8.749.080)	(10.996.092)	(13.605.600)
<b>Gross margin</b>	<b>845.747</b>	<b>806.841</b>	<b>1.112.544</b>	<b>1.421.160</b>	<b>2.281.656</b>	<b>3.412.224</b>	<b>2.821.524</b>	<b>3.987.216</b>	<b>6.532.344</b>	<b>9.166.356</b>
<b>Gross margin %</b>	<b>69,72%</b>	<b>58,12%</b>	<b>43,21%</b>	<b>41,46%</b>	<b>40,12%</b>	<b>42,29%</b>	<b>28,14%</b>	<b>31,31%</b>	<b>37,27%</b>	<b>40,25%</b>
<b>Operating expenses</b>	-	-	-	-	-	-	-	-	-	-
Sales & marketing	(17.375)	(17.723)	(66.077)	(67.398)	(68.746)	(70.121)	(143.524)	(145.674)	(147.861)	(150.083)
Research & development	(86.118)	(92.715)	(100.782)	(110.708)	(122.986)	(138.241)	(157.265)	(181.065)	(210.913)	(248.427)
General & administration	(792.200)	(835.924)	(908.507)	(1.051.170)	(1.071.352)	(1.092.575)	(1.256.511)	(1.431.454)	(1.459.186)	(1.488.311)
<b>Total operating expenses</b>	<b>(895.693)</b>	<b>(946.361)</b>	<b>(1.075.365)</b>	<b>(1.229.276)</b>	<b>(1.263.084)</b>	<b>(1.300.937)</b>	<b>(1.557.301)</b>	<b>(1.758.193)</b>	<b>(1.817.960)</b>	<b>(1.886.821)</b>
<b>EBITDA (earnings before interest tax depreciation and amortisation)</b>	<b>(49.946)</b>	<b>(139.520)</b>	<b>37.179</b>	<b>191.884</b>	<b>1.018.572</b>	<b>2.111.287</b>	<b>1.264.223</b>	<b>2.229.023</b>	<b>4.714.384</b>	<b>7.279.535</b>
<b>EBITDA margin %</b>	<b>-4,12%</b>	<b>-10,05%</b>	<b>1,44%</b>	<b>5,60%</b>	<b>17,91%</b>	<b>26,17%</b>	<b>12,61%</b>	<b>17,50%</b>	<b>26,90%</b>	<b>31,97%</b>
Subsidy / Grants	-	-	-	-	-	-	-	-	-	-
Depreciation and amortisation	(67.154)	(69.975)	(52.454)	(52.100)	(52.100)	(31.550)	(29.500)	(2.000)	(2.000)	(2.000)
<b>Earnings before interest and tax (EBIT)</b>	<b>(117.100)</b>	<b>(209.495)</b>	<b>(15.275)</b>	<b>139.784</b>	<b>966.472</b>	<b>2.079.737</b>	<b>1.234.723</b>	<b>2.227.023</b>	<b>4.712.384</b>	<b>7.277.535</b>
Interest	-	-	-	-	-	-	-	-	-	-
<b>Financial cost</b>	-	-	-	-	-	-	-	-	-	-
<b>Earnings before tax (EBT)</b>	<b>(117.100)</b>	<b>(209.495)</b>	<b>(15.275)</b>	<b>139.784</b>	<b>966.472</b>	<b>2.079.737</b>	<b>1.234.723</b>	<b>2.227.023</b>	<b>4.712.384</b>	<b>7.277.535</b>
Tax	-	-	-	-	(191.096)	(519.934)	(308.681)	(556.756)	(1.178.096)	(1.819.384)
<b>Net result</b>	<b>(117.100)</b>	<b>(209.495)</b>	<b>(15.275)</b>	<b>139.784</b>	<b>775.376</b>	<b>1.559.803</b>	<b>926.043</b>	<b>1.670.267</b>	<b>3.534.288</b>	<b>5.458.151</b>

# FINANCIALS

## CASH FLOW STATEMENT SCENARIO 2

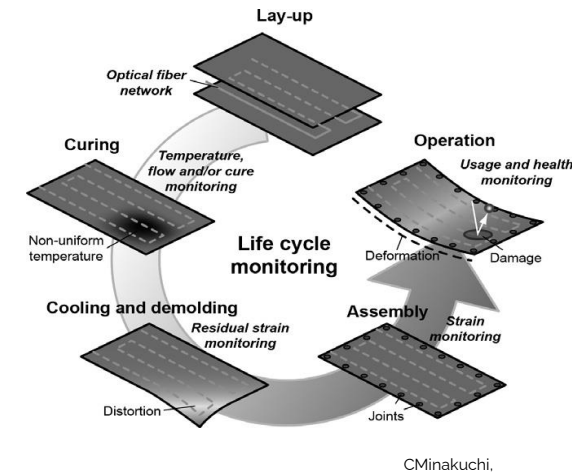


"Com&Sens" Cash Flow Statement Currency: EUR	2023 Total	2024 Total	2025 Total	2026 Total	2027 Total	2028 Total	2029 Total	2030 Total	2031 Total	2032 Total
<b>Earnings before interest and tax (EBIT)</b>	<b>(117.100)</b>	<b>(209.495)</b>	<b>(15.275)</b>	<b>139.784</b>	<b>966.472</b>	<b>2.079.737</b>	<b>1.234.723</b>	<b>2.227.023</b>	<b>4.712.384</b>	<b>7.277.535</b>
Depreciation and amortisation	67.154	69.975	52.454	52.100	52.100	31.550	29.500	2.000	2.000	2.000
Change in working capital	-	-	-	-	-	-	-	-	-	-
Interest	-	-	-	-	-	-	-	-	-	-
Tax	-	-	-	-	(191.096)	(519.934)	(308.681)	(556.756)	(1.178.096)	(1.819.384)
<b>Operational cashflow</b>	<b>(49.946)</b>	<b>(139.520)</b>	<b>37.179</b>	<b>191.884</b>	<b>827.476</b>	<b>1.591.353</b>	<b>955.543</b>	<b>1.672.267</b>	<b>3.536.288</b>	<b>5.460.151</b>
(Des)investments	(216.500)	(30.000)	(187.500)	-	-	-	-	-	-	-
<b>Investment cashflow</b>	<b>(216.500)</b>	<b>(30.000)</b>	<b>(187.500)</b>	-	-	-	-	-	-	-
Other changes in equity	-	-	-	-	-	-	-	-	-	-
Change in interest bearing debt	266.446	169.520	150.321	(191.884)	(394.404)	-	-	-	-	-
<b>Financial cashflow</b>	<b>266.446</b>	<b>169.520</b>	<b>150.321</b>	<b>(191.884)</b>	<b>(394.404)</b>	-	-	-	-	-
<b>Total cashflow</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>433.072</b>	<b>1.591.353</b>	<b>955.543</b>	<b>1.672.267</b>	<b>3.536.288</b>	<b>5.460.151</b>
Cash beginning of period	-	-	-	-	-	433.072	2.024.425	2.979.967	4.652.234	8.188.522
Total cashflow	-	-	-	-	433.072	1.591.353	955.543	1.672.267	3.536.288	5.460.151
<b>Cash end of period</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>433.072</b>	<b>2.024.425</b>	<b>2.979.967</b>	<b>4.652.234</b>	<b>8.188.522</b>	<b>13.648.673</b>

# MISSION

**Com&Sens brings value to the complete supply chain of the composites pressure vessels industry**, providing manufacturers, designers & operators with engineering services, sensors, systems and actionable data :

- **From R&D, design and prototyping**, by increasing speed to market and quality, lowering safety factors, and enhancing process optimization
- **Through the digitalization of MAIT processes**, reducing production costs and increasing performance and quality
- **To in- service and operations**, enabling safety and intelligence to composites structures, facilitating their integration in digital asset monitoring solutions.



# VISION



Com&Sens is the global frontrunner in **digital manufacturing** and **structural health monitoring technologies** for advanced composites structures using Fiber Bragg grating sensing technology, delivering **digital fingerprint & actionable data** of the complete lifecycle of structural composites, enabling safe, connected and intelligent composites pressure vessels systems.



FIBER OPTIC SENSING FOR  
**SAFE, CONNECTED AND INTELLIGENT**  
COMPOSITES PRESSURE VESSELS SYSTEMS

**COM&SENS**  
adding value by sensing

