Key Facts Sioux Logena

- **Over 20 years of experience** in the development and programming of in-vehicle embedded systems;

- A dynamic, highly trained team that is **innovation-driven**

- **Excellent skills** in both mechanic and electronic automotive systems

- Customer oriented philosophy: Sioux Logena focuses on offering the **best fit solution**, instead of just one of its products;

- Containing “outside the box” thinking in order to constantly meet customer’s requirements;

- Experts in translating ideas into requirements and requirements into **implementation**;

- HMI design artists while observing ergonomics, system capabilities and **feasibility**;

- Active player in all electronics-related areas:
  - from **Wiring Harness Engineering** to **PCB Development**;
  - from **HMI Design to Software Programming**;

- Thinking in terms of vehicle system **solutions** with our customers
Sioux Logena Facilities

Eindhoven, The Netherlands: Sioux Logena BV

Center Valley, PA USA: Logena Automotive LLC
Business Segments

Software
- In-Vehicle Embedded Systems
  - PC Software
  - Handheld Software
- In-Vehicle Electronics
- Wiring Harness Engineering
- Electro & Dashboard Panels
- Test Equipment

Hardware
- In-Vehicle Network Systems

System Integration
- In-Vehicle Display User Interfaces
- PC User Interfaces
- Handheld User Interfaces

HMI Design

Products
- In-Vehicle Products
- Off-Vehicle Products
- Customized Solutions
Market Segments

Commercial Vehicles
- Trucks
- Buses
- Coaches

Passenger Vehicles
- Sports Cars
- Hybrid & EV’s
- Conventional Cars

Off-Highway Vehicles
- Agriculture
- Construction Machinery
- Material Handling

Special Vehicles
- RVs
- Pod Cars
- Concept Vehicles

Others
- Marine
- Test Rigs
- Engine & Stationary
World wide Customers

- Ventura
- Alexander Dennis
- Beiben Trucks
- Caetanobus
- TAM Durabus
- DAF
- DesignLine USA
- Efacec
- Denso
- Terberg Techniek
- Terex Demag
- Irizar
- MAN
- Kenworth
- Telma
- NABI
- NACCO
- PACCAR
- Peterbilt
- Proterra
- VDL Bus & Coach
- SINOTRUK
- VSE
- TemSA
Core Business: In-Vehicle

Software
- Multiplex
- Body Controllers
- Instrumentation
- Customized Solutions

Hardware
- In-Vehicle Electronics
- Wiring Harnesses
- Dashboard Panels
- Test Equipment
- Customized Solutions

System Integration
- Electronic Braking Systems
- Transmission Controllers
- Door Systems

HMI Design
- Instrumentation Design
- Multimedia Design
- Customized Solutions

Products
- CAN-to-CAN Gateway
- Door Control Unit
- Network Router
- Tacho Replacement Unit
- Multifunctional Display
- CAN-to-Analogue OCTOLINK
- Multiplex System Components
- Customized Solutions
Business Segment: Embedded Software

Software Skills


In-Vehicle Communication Protocols: LIN, CAN, MOST, MC-NET, MOD


Instrumentation

Multiplex Systems

Body & Door Controllers

Customized Applications

Training & Support
Business Segment: Hardware Development

Hardware Engineering

- In-Vehicle Electronics
  - CAN-to-CAN Gateway
  - Touch Screen-to-CAN
  - CAN-to-Analogue
  - Body & Door Controllers
  - Network Router
  - DCU
  - Customized

- Wiring Harness Engineering
  - Revision Systems
  - 3D Modeling
  - Service Documentation
  - Customized Harness Solutions

- Electro & Dashboard Panels
  - Power Distribution
  - Customized Panels
  - Central Electronic Panels

- Test Equipment
  - Engine Test Rigs
  - Body controller Test Equipment
  - Multiplex System Test Equipment

- Customized Hardware
Business Segment: System Integration

In-Vehicle Network Systems Integration

- Body Systems
- CAN BUS Systems
- Powertrain Systems
- Multimedia Systems
- Electrical Architecture
- Backoffice Philosophies
- Instrumentation Systems
- Electronic Vehicle Systems
- Fleet Management Systems

Integration Skills


Vehicle Operating Strategy and Control

Prototyping Hardware / Software

Integration
Testing and Validation

Final delivery
Business Segment: HMI Design

Design

- **In-Vehicle Display User Interfaces:**
  - Human Machine Interface Design
  - Instrumentation Design
  - Multimedia Design
  - Customized View Gates

- **PC / Handheld User Interfaces:**
  - PC Software HMI
  - Handheld Software HMI
  - Apple Apps (iPod/iPhone/iPad)
  - Other Platforms

HMI Software Skills

**Software tools:**
Adobe Photoshop, Paint Shop Pro, Corel Paint Shop Pro,
Google Sketchup, Paint.net, Xcode, Microsoft Visual Studio,
Adobe Illustrator, Adobe InDesign
Business Segment: APPS & PC Software

PC / Handheld Software

- Diagnose Tooling & Equipment
- End of Line Tooling & Equipment
- Handheld Apps
  - Apple Apps (iPod/iPhone/iPad)
  - Other Platforms
- Customized PC Applications

Software Skills

Software tools:
Logicad, CAVTAN, Gravis, GRADI inCinema 4D, IEC61131, CodeSYS, DDS, C/C++, Visual Basic, .NET, JAVA, Windows CE / Auto, Linux, iOS SDK 4,
Business Segment: Products

Product overview

- CAN to CAN Gateway
- Door Control Unit
- Network Router
- OCTOLINK
- Logena Service Tool
- Tacho Replacement Unit
- GPS speed Converter
- GPS & Time/Date to CAN
Engine Integration

- Logena has recently become an official PACCAR/DAF Integration Partner
- We are able to deliver cost-effective turnkey solutions
- Logena cooperates with WABCO in order to electronically integrate the PACCAR/DAF Engines
# OEM & T1 Customers and our deliverables

<table>
<thead>
<tr>
<th>Company</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACCAR Inc</td>
<td>DAF, Kenworth, Leyland, Peterbilt</td>
</tr>
<tr>
<td></td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• Vehicle Multiplex Networking</td>
</tr>
<tr>
<td></td>
<td>• Software Engineering &amp; Testing</td>
</tr>
<tr>
<td></td>
<td>• System Integration</td>
</tr>
<tr>
<td></td>
<td>• HMI Design</td>
</tr>
<tr>
<td></td>
<td>• Diagnose Tools Engineering</td>
</tr>
<tr>
<td></td>
<td>• Turnkey Projects</td>
</tr>
<tr>
<td></td>
<td>• After Sales Support</td>
</tr>
<tr>
<td></td>
<td>• Resident Engineering</td>
</tr>
<tr>
<td>Irizar Bus</td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• System Integration</td>
</tr>
<tr>
<td></td>
<td>• Software Engineering</td>
</tr>
<tr>
<td></td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td></td>
<td>• HMI Design</td>
</tr>
<tr>
<td></td>
<td>• Prototype Building</td>
</tr>
<tr>
<td></td>
<td>• Diagnostic and EOL Tooling</td>
</tr>
<tr>
<td></td>
<td>• Service Documentation</td>
</tr>
<tr>
<td>Nacco Material Handling Group</td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• System Integration</td>
</tr>
<tr>
<td></td>
<td>• Software Engineering</td>
</tr>
<tr>
<td></td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td></td>
<td>• Resident Engineering</td>
</tr>
<tr>
<td>MAN</td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• Complete Kibes System Integration</td>
</tr>
<tr>
<td></td>
<td>• Door Module Software</td>
</tr>
<tr>
<td></td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td></td>
<td>• CAVTAN System changes worldwide</td>
</tr>
<tr>
<td></td>
<td>• Resident Engineering</td>
</tr>
<tr>
<td>DAF, Kenworth, Leyland, Peterbilt</td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• Vehicle Multiplex Networking</td>
</tr>
<tr>
<td></td>
<td>• Software Engineering &amp; Testing</td>
</tr>
<tr>
<td></td>
<td>• System Integration</td>
</tr>
<tr>
<td></td>
<td>• HMI Design</td>
</tr>
<tr>
<td></td>
<td>• Diagnose Tools Engineering</td>
</tr>
<tr>
<td></td>
<td>• Turnkey Projects</td>
</tr>
<tr>
<td></td>
<td>• After Sales Support</td>
</tr>
<tr>
<td></td>
<td>• Resident Engineering</td>
</tr>
<tr>
<td>Irizar Bus</td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• System Integration</td>
</tr>
<tr>
<td></td>
<td>• Software Engineering</td>
</tr>
<tr>
<td></td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td></td>
<td>• HMI Design</td>
</tr>
<tr>
<td></td>
<td>• Prototype Building</td>
</tr>
<tr>
<td></td>
<td>• Diagnostic and EOL Tooling</td>
</tr>
<tr>
<td></td>
<td>• Service Documentation</td>
</tr>
<tr>
<td>Nacco Material Handling Group</td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• System Integration</td>
</tr>
<tr>
<td></td>
<td>• Software Engineering</td>
</tr>
<tr>
<td></td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td></td>
<td>• Resident Engineering</td>
</tr>
<tr>
<td>MAN</td>
<td>Our delivered solutions:</td>
</tr>
<tr>
<td></td>
<td>• Complete Kibes System Integration</td>
</tr>
<tr>
<td></td>
<td>• Door Module Software</td>
</tr>
<tr>
<td></td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td></td>
<td>• CAVTAN System changes worldwide</td>
</tr>
<tr>
<td></td>
<td>• Resident Engineering</td>
</tr>
</tbody>
</table>
## OEM & T1 Customers and our deliverables

<table>
<thead>
<tr>
<th>PROTERRA</th>
<th>DesignLine</th>
<th>Peterbilt</th>
<th>E-Traction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
</tr>
<tr>
<td>• Vehicle Multiplex Networking</td>
<td>• System Integration</td>
<td>• System Integration</td>
<td>• ISO 2626 implementation</td>
</tr>
<tr>
<td>• Software Engineering &amp; Testing</td>
<td>• Software Engineering</td>
<td>• Software Engineering</td>
<td>• Software Processes</td>
</tr>
<tr>
<td>• PWT System Integration</td>
<td>• HMI Design</td>
<td>• HMI Study + APP development</td>
<td>• Guidance and restructure SW</td>
</tr>
<tr>
<td>• HMI Design</td>
<td>• Prototype Building</td>
<td>• Remote data transport</td>
<td>• Embedded software</td>
</tr>
<tr>
<td>• Diagnose Tools Engineering</td>
<td>• Diagnostic and EOL Tooling</td>
<td>• Cloud solutions</td>
<td></td>
</tr>
<tr>
<td>• Turnkey Projects</td>
<td>• Customization DWP solution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Powertrain Software</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Resident Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## OEM & T1 Customers and our deliverables

<table>
<thead>
<tr>
<th><strong>CAETANO BUS</strong></th>
<th><strong>EFACEC</strong></th>
<th><strong>Spierings Mobile Cranes</strong></th>
<th><strong>TAM DuraBus</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
</tr>
<tr>
<td>• Vehicle Multiplex Networking</td>
<td>• Embedded SW engineering</td>
<td>• System Integration</td>
<td>• Kibes System Integration</td>
</tr>
<tr>
<td>• Software Engineering &amp; Testing</td>
<td>• E-PWT System Integration</td>
<td>• Software Engineering</td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td>• System Integration</td>
<td>• Software Design</td>
<td>• Wiring Harness Engineering</td>
<td>• HMI Design</td>
</tr>
<tr>
<td>• HMI Design</td>
<td>• ISO 26262</td>
<td>• Resident Engineering</td>
<td>• Software architecture platform</td>
</tr>
<tr>
<td>• Diagnose Tools Engineering</td>
<td>• V-Cycle process</td>
<td>• Software applications</td>
<td>• Software applications</td>
</tr>
<tr>
<td>• Resident Engineering</td>
<td></td>
<td>• Resident Engineering</td>
<td>• Resident Engineering</td>
</tr>
</tbody>
</table>

---

**logi.CAD**

**MATLAB SIMULINK**

---

**CAETANO BUS Image**

**EFACEC Image**

**Spierings Mobile Cranes Image**

**TAM DuraBus Image**
# OEM & T1 Customers and our deliverables

<table>
<thead>
<tr>
<th>Marchi mobile</th>
<th>Polaris</th>
<th>GORDON MURRAY Design</th>
<th>Terberg Techniek</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
<td><strong>Our delivered solutions:</strong></td>
</tr>
<tr>
<td>• Vehicle Multiplex Networking</td>
<td>• HMI Design</td>
<td>• System Integration</td>
<td>• Retrofit EV power train</td>
</tr>
<tr>
<td>• Software Engineering &amp; Testing</td>
<td>• Software Design</td>
<td>• Software Engineering</td>
<td>• Implement gateway module</td>
</tr>
<tr>
<td>• System Integration</td>
<td>• Software applications &amp; coding</td>
<td>• HMI Design</td>
<td>• Wiring Harness Engineering</td>
</tr>
<tr>
<td>• HMI Design</td>
<td>• Testing and validation</td>
<td>• Resident Engineering</td>
<td>• Reverse engineer CAN-bus</td>
</tr>
<tr>
<td>• Network Router</td>
<td></td>
<td></td>
<td>• Software applications</td>
</tr>
<tr>
<td>• Octolink (cloud solution)</td>
<td></td>
<td></td>
<td>• HMI Design</td>
</tr>
<tr>
<td>• Diagnose Tools</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# T1 Customers and our deliverables

<table>
<thead>
<tr>
<th>Continental Automotive China</th>
<th>DAF N.V.</th>
<th>WABCO</th>
<th>TELMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our delivered solutions:</td>
<td>Our delivered solutions:</td>
<td>Our delivered solutions:</td>
<td>Our delivered solutions:</td>
</tr>
</tbody>
</table>
|                             | • Software programming for the instrument panel controller (DAF Vehicle Intelligence Center) | • ECU Embedded SW architecture/design conform V-Cycle and AutoSAR/SPICE  
• ECU Embedded SW engineering and testing  
• System Programming Front-End  
• System Application Engineering | • ECU Embedded SW architecture/design conform V-Cycle and AutoSAR/SPICE  
• ECU Embedded SW engineering and testing  
• End customer Software Application Engineering and Integration |

**Continental Automotive China**
- Continental Automotive GmbH
- In China:
  - Generic Diagnostic & EOL Tooling for local OEM’s
- In Germany:
  - Software Programming for Network Control Units (2009, 10)
  - Compact View Programming for small OEM’s (2010)
  - View Gate Programming (2011)

**DAF N.V.**
- Our delivered solutions:
  - Software programming for the instrument panel controller (DAF Vehicle Intelligence Center)

**WABCO**
- Our delivered solutions:
  - ECU Embedded SW architecture/design conform V-Cycle and AutoSAR/SPICE  
  - ECU Embedded SW engineering and testing  
  - System Programming Front-End  
  - System Application Engineering

**TELMA**
- Our delivered solutions:
  - ECU Embedded SW architecture/design conform V-Cycle and AutoSAR/SPICE  
  - ECU Embedded SW engineering and testing  
  - End customer Software Application Engineering and Integration
Contact Information

Sioux Logena B.V.
Esp 405
5633 AJ Eindhoven
The Netherlands
T: +31 88 746 8954
Logena@sioux.eu
www.sioux.eu/logena

LOGENA Automotive LLC
3477 Corporate Parkway, Suite 100
Center Valley, PA 18034
USA
T: +1 610 395 1121
Logena@sioux.eu
www.sioux.eu/logena