From Uppsala to Suncheonon Wetlands

Jörgen Gustafsson
Managing Director, Vectus Sweden
Safety case accepted by Swedish Railway Agency

More than 3000 hours of operation.
More than 2000 visitors to date.

All functions for commercial system have been tested.
• Fully automated driver-less operation.
• Three vehicles, 3-4 sec headway, 30 mph.
• Complete station, including ticketing.
Do you have time to wait?

Performance in all conditions
• Speed 25+ mph
• Headways at 3-4 seconds
• Safe
  • Vehicle is captive to the track
  • Mechanical guidance along track and through switches
  • Compliant with EN/BS fire standards.
• Comfortable
  • Aircon, heating, excellent view, quiet
• Efficient
  • Quick and easy access, also for disabled
• Spacious
  • Prams, bicycles, luggage, wheelchair
The Vectus Station

- Linear Movement
  - High Efficiency (vehicle & passenger flow)
  - Low Overall Space Requirement
- Multitude of Configurations Possible
  - Passenger Flow
  - Number of Berths
  - Parallel Tracks
- Full Vehicle Protection (ATP/ATO)
• State of the Art Control System
• Distributed
• Asynchronous
• Dynamic Moving Block
• Real Time Emulation
• Rigorous Safety Case
• Approved by Swedish Transport Agency
• International Standards (incl. ASCE/APM)
Higher Capacity with

• Same Interface to Guideway (Track)
• Same Interface to Stations
• Combined Operation with Small Vehicles
• 6 – 10 seated passengers
• About 100 sqft floor area for standing passengers
• Acceleration and Braking to accommodate standing passengers
• Down to 10 Seconds Headway
Tram / LRT / Monorail

230 passengers / 5 min = 2760 pass/h
460 passengers / 1.5 minutes = 18400 pphpd

2 passengers / 5 seconds = 1440 pass / h
6 passengers / 3 seconds = 7200 pphpd

30 passengers / 30 seconds = 3600 pass / h
40 passengers / 10 seconds = 14400 pphpd
Bespoke through Modularity

Application Specific:

- Propulsion Systems
- Power Supply
- Track Structure
- Station Configurations
- Vehicle exterior
- Vehicle interior
- Station design
- Guideway architecture
The First Generation

- More than 2000 visitors have experienced the Vectus system
- Third winter of successful operation in snow and ice
- Performance verification:
  - Merge at full speed
  - 3-4 sec. headway
  - 50 km/h (30 mph)
- Endurance testing
- 2007: Complete in approved agency
- 2008: Performance verification
- 2009: Third winter of successful operation
The Next Generation

- **2010**: Launch of GRT concept
- **2011**: Emulation software developed that generates an exact representation of PRT/GRT systems
- **2012**: Basic design for the Suncheon Bay Project completed
- **2013**: Suncheon Bay Project inauguration scheduled

*An MoU signed with Suncheon City, South Korea, to supply the world’s largest PRT system*
### Vectus Next Generation

#### New styling
- Small Vehicle
- Large Vehicle
- Track Structure
- Stations

#### Vehicles
- Onboard Propulsion
- Current Collection
- 3 + 3 seating

#### Guideway
- Double track
  - PSC 30 m span
  - Steel 40 and 50 m span
- Single track
  - Steel 15 m span