



CONFERENCE NEWSLETTER #3 – September 30, 2009

BREAKING NEWS: Vectus Ltd. secures its 1st MoU for PRT in South Korea.

Vectus PRT, a Posco subsidiary, has recently joined the ranks of ULTra (BAA) and 2getthere (MASDAR City) as viable “PodCar” products having attracted an initial customer. This week, the joint Swedish/Korean company signed a memorandum of understanding (MoU) to produce a 5 km (3mile) Personal Rapid Transit system for Suncheon, South Korea.

The new eco-friendly transit network will connect travelers to and from Suncheon Bay, a scenic agricultural and industrial city of around 250,000 people, to the Suncheon International Gardening Festival site. By 2013, 40 vehicles will be in operation, traveling at a top speed of 60 km/h (37 m/h).

Posco’s Vectus system, launched in 2002, is considered a “classic” form of PRT with 4 / 6-passenger “Pods” powered by reversible, in-guide-way, linear induction motors. Current test work aims at achieving sub-2.5 second headways and 45km/h commercial speed (60km/h maximum).

A 1:10 model has operated in Korea since 2005. In 2006, a \$40-million, 400-meter full-scale test facility in Uppsala, Sweden opened under the supervision of the Swedish Rail Authority. Passenger safety certification for the automated, rail-based, system was achieved in early 2009.

Suncheon Bay is currently experiencing strong development due to being included as part of the *Gwangyang Bay Free Economic Zone*, one of three newly created Free Economic Zones (FEZs) in South Korea.

In fact, plans are underway to merge the cities of Yeosu, Suncheon and Gwangyang into a new metropolitan city, taking advantage of the Free Economic Zone, Yeosu's Expo 2012 bid, Suncheon's educational institutes, and Gwangyang's POSCO plant.



Vectus PRT



Uppsala Test Facility



Suncheon, S.K.

Throwing good money after bad & the art of incremental change



Letter from Christer

It's easy to throw good money after bad. Just say to yourself: "We'll solve that (issue) later, let's *buy some time*". This strategy was probably one of the major driving forces in triggering the most recent global financial meltdown, and is still the principal strategy with regard to the extraction, trade and use of petroleum as the fuel powering the world's transportation needs.

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TO READ MORE AND REGISTER – WWW.PODCAR.ORG/COP15

Letter from Christer continued...

Another example of throwing good money after bad is the art of incremental change.

Yes, incremental change is appealing to a certain point. However, it is of little or no consequence for the transportation industry, for example, to focus on how efficient the internal combustion engine will become, or how traffic light systems are optimized.

I appreciate the incremental change that has taken place in the evolution of a oil lamp into a compact florescent light in my house, but will not be satisfied with such time-tables when it comes to addressing the immense challenges of our day. Concerning the modification of our most prevalent mode of transportation – I firmly believe that it's not a question IF we will have a major paradigm shift; it's a question of WHEN.

To suggest that the car is the ultimate solution for personal freedom and movement, (as well as safety, affordability and environmental cleanliness) is denying the most basic historical evidence of ground-breaking innovation and change. I know that we will do better, and that the transformation will indeed be anything but incremental.

So rather than holding off the inevitable, let's throw GOOD money where it should be - at supporting endeavors that are making the big leap toward securing a new green transit future.

Christer Lindstrom, Founder
Institute for Sustainable Transportation



INDUSTRY UPDATE: SILICON SPARKLES by Larry Fabian

San Jose, California

Silicon Valley is a very prosperous stretch of scenic California landscape along the San Francisco Bay's southern tip. It is home to numerous companies that have grown rich and powerful by commercializing modern technology that transforms the way the world works and communicates; Apple, Cisco, EBay, Facebook, Google, Hewlett-Packard and Paypal are but some of the many giants of this software-based world based in the Valley.

Where exactly is Silicon Valley? Geographically many think of it as the whole of Santa Clara County. Ultimately, it is the southern anchor of a much larger metropolitan complex that includes San Jose (pop. 1million), smaller towns of Mountainview, Palo Alto and Sunnyvale, and eventually San Francisco and Oakland stretching to the north. Milpitas lies to the east.

Over the years, local tech-based businesses have greatly benefited from the creative and scientific brain-power spinning off of Lockheed-Martin, the NASA-Ames facility, and Stanford University. Today, evidence points to a regional interest in providing viable forms of modern transit, suitable to the 21st century, and PRT is solidly part of the public-private dialog. Impressed by potential profits, many innovative entrepreneurs are turning attention to next-generation transit; frankly, one could say that things are happening at the *speed of Silicon Valley*.



Silicon Valley Panorama

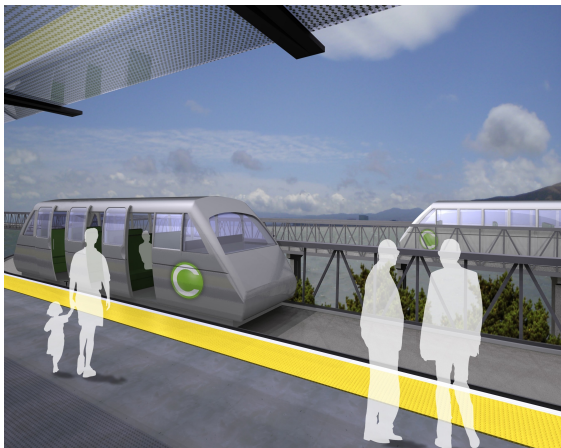
Silicon Sparkles continued...

When it rains, it pours & when silicon shines, it sparkles. Today, PRT interests are lighting up in the NASA-Ames facility, as it is now hosting a test-demo of Unimodal's Skytran system.

This recent activity is drawing attention from public officials in Marin County, north of San Francisco, and Oakland is also talking about developing a "green corridor" in the Bay area that might feature Cybertran's technology.



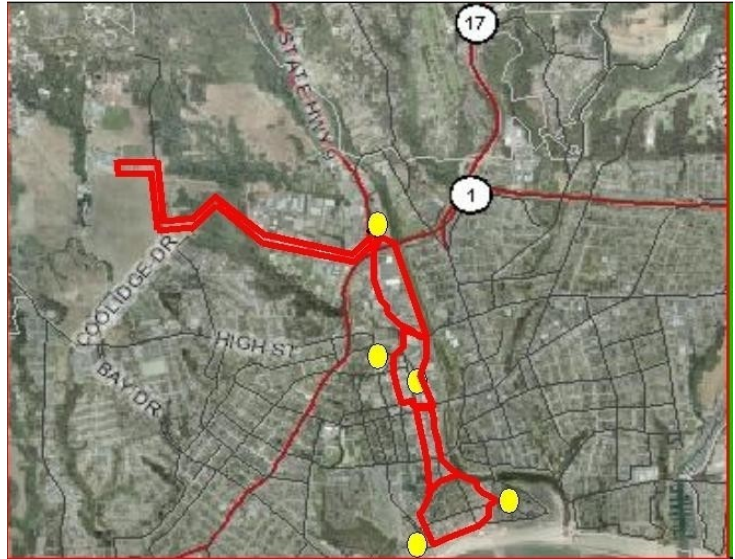
SkyTran / Unimodal



CyberTran

A Green Technology Breakthrough?

Silicon Valley is certainly a swirl of PodCar energies these days. To the southwest of San Jose, over the nearby coastal mountains, is Santa Cruz ~ with its Pacific-coast PRT dreams and ambitions. Fresno, to the southeast, has \$36 million accumulating in local transit funds earmarked for PRT, and is studying where a pioneering installation would work.



Santa Cruz PRT Layout

California's state budget has been strangled by the larger world recession, the housing market has contracted severely and as a result, local budgets are squeezed and major cutbacks face most programs in California. Therefore, Sacramento is an unlikely source of funds for a PRT breakthrough – except perhaps for the High-speed Rail Authority which reportedly sees possible advantages in serving HSR station's with PodCars. Will Silicon's investors and technologists deliver? That remains to be seen, yet San Jose is now hiring two consultants.

One will sketch out an informed master plan for the airport district, where city and regional rail stations are nearby, but not walkable. The other will manage development and integration of a hopefully optimized PodCar technology. Are the managers of BART and the technocrats in Caltrans and the FTA paying attention? Sadly, the answer seems to be No. The good news is that this doesn't bother the investors, techies and dreamers that propel Silicon Valley enterprise.



San Francisco Bay area Panorama

TOP STORY:

SWEDISH PRT SITES IDENTIFIED

STOCKHOLM, SWEDEN

A new government report released this week suggests that the four to six Municipalities are the most favorable location in the country for a new PRT project. According to the findings, the four that has been ranked the highest are Uppsala, Södertälje, Umeå and Via Academica, Stockholm.

The study identified the three municipalities as possible sites for an experimental PRT project that would pioneer PodCar development in Sweden, and beyond. Uppsala has already allocated SEK 400 000 for a PRT feasibility study, and has been home to the Vectus PRT test facility since 2007. It was also the scene of the 1st PodCar City Conference.

Lead investigator, Kjell Dahlström, has also concluded that the overall interest in the development of PRT systems in Sweden is high. He notes that a recent survey of all the municipalities has shown at least 29 have interest, 12 have implemented various types of feasibility studies, and that future prospects for near-term implementation of PodCar systems are good.

Banverket, the Swedish Rail Administration, has been made responsible for pre-construction planning of the pilot PRT networks at the three locations, while also beginning negotiations with the municipalities over who should get the initial system.

If this new transit product proves to work as expected in an initial "pilot" project, the possibility of building a county-operated PRT ring in Stockholm to connect peripheral towns has been discussed. Learn more about this historic declaration in the **Kompas Update**; Page 7.



One of the biggest arguments against PRT is the potential for visual intrusion. Here is an aerial photo of Uppsala, Sweden, one of the most pedestrian and bicycle friendly cities in the world – so, if we were to build its motorized transit infrastructure from scratch, would we build surface level Car & Bus routes again, or would we leave the ground for people and build elevated electric networks? Does one system fit better, or are we resigned to accept what already is?

Eye on Malmo:

METRO-SMART COPENHAGEN

PRT, or PodCars, are not typically thought of as replacements for metros – except perhaps for towns of 50,000 - 250,000 ~ those too small to consider building a conventional metro. Most agree that metros will retain a primary role in public transit schemes for major cities where PRT seems more viable as feeders to regional rail stations – as has been proposed for suburban Nassau County outside New York City and in San Jose and Santa Cruz, California

PODCAR CITY : COP 15 takes place strategically, and geographically, between the friendly rivalry between Copenhagen and Stockholm, each claiming to be the heart of Scandinavia. Both cities have about two million inhabitants, both delights for transit lovers and those who appreciate utilitarian, efficient design.

Stockholm has a relatively dense network of seven "classic" metro lines with one-hundred stations, plus extensive commuter and national rail and a few streetcars as well. Fifteen years ago, Copenhagen had commuter/national rail, but not a single metro line. This changed with impressive speed and result in a financially brilliant way that should be a lesson for all of us.

Land-Based Metro Funding

Copenhagen is the capital of Denmark and was fortunate to own a large tract of public land between its historic core, the airport, and the majestic road-rail bridge that now connects it to Malmo and the rest of Sweden. This land was on the island of Ore. Danish planners sketched out plans for Orestad: a transit - oriented urban development district understanding that the transit would create land value to be tapped to pay for metro connections.

They also knew the advantages of full, driverless, transit automation. Data from several French VAL projects in the 1980s and early 1990s gave evidence that it was safe, reliable, and accepted by the riding public. In fact, driverless metros are safer and more reliable than classic metros with human conductors in charge of each train's travel.

Eye on Malmo continued...

Knowing that most accidents are due to human error, Copenhagen leaders wanted 21st century standards. So, in 1996, they turned to Italian expertise for their new “smart” metro. Ansaldo supplied Copenhagen’s system – the first link opening in 2002. It was paid for by land sales; total cost was \$1 billion.

Second and third phases were added with public funds for the municipality of Frederiksberg and the County. Today the Copenhagen Metro runs to and from the Airport and is the fastest and cheapest way of getting to and from Downtown Copenhagen

Sleek Scandinavian Design

Letting in sunlight and avoiding dark corners, Copenhagen’s Metro stations are to high standards, as well.

The fundamental design philosophy has been to establish places that give passengers ideal access to the Metro and also blend in with and enhance its urban surroundings. To achieve this delicate balance, the stations – like the other parts of the Metro – are kept in classic, functional Scandinavian design.

Plans for a complementary circumferential line are advancing, again partly funded by land value generated by the 24/7 service delivered to new districts.

Modern Copenhagen is “transit-oriented from the start.” It is a world class example of sustainable urban development made possible by 21st century automated mobility.

While attending the conference in Malmo, consider a trip to the big city across the Oresund Straits, as Copenhagen, the city, and its driverless metro are both worth a visit.



Copenhagen Driverless Metro



Copenhagen Metro Map

Speaker Profile: 5 Questions for Alexandra Lichtenberg



Q1. Please give us a brief background on your work in Brazil. Also, tell us a little about Ecohouse Urca.

Ecohouse Urca (www.ecohouse.com.br) – where I live with my family and where I have my office - was my company’s first sustainable construction project, back in 2003. I figured that if nobody wanted to hire me to design a green home, I would hire myself to do it!

This project had an immense repercussion both domestically and internationally, won a couple of prizes - however, up to this day, it is still hard to find prospects willing to pay for an integrated design project, in spite of the available data collected proving the utility savings at Ecohouse Urca.

Currently I am working on a project to develop public policies for sustainable construction in Belo Horizonte where I am getting the relevant stakeholders to negotiate, around an RFP which contains the basic sustainability parameters which need to be implemented.

Speaker Profile continued...

The desired outcome is to have the city offer compensations in terms of project approval time, maybe tax cuts, banks offering special loans, universities offering specific capacity, and builders complying voluntarily.

The citizens will then have access to dwellings that are much more comfortable, that consume much less water and energy, and that emit much less carbon from the construction itself and from its use and maintenance. One of the main points is to make it attractive to all stakeholders, for unless we have mass adhesion to this project (and others all over the world), we will not be able to reduce GHG emissions in time.

Q2. As an Architect and Urban Planner, can you share a few of your current mantras? What are the most pressing issues we face in the built environment today? & how are you suggesting we take them on?

As an architect and urban planner, I insist we must make sustainable initiatives ATTRACTIVE and PROFITABLE, and do a good job with the math involved. Many initiatives have been undertaken without the proper planning and the proper integrated multi-disciplinary teams, thus yielding poor results. Clients must be shown the numbers, how they will profit from investing upfront in planning and in design, that there are tools for helping in the decision making process to make sure they will get the estimated return. That is definitely my mantra! The biggest problem in the design of the built environment has been and still is the lack of systemic vision. There are very good examples of such good systemic design already happening, such as Hammarby in Stockholm (Se) and Vauban in Freiburg (Ger). They are mixed used neighborhoods that contemplate land use, transportation and energy as parts of one system, considering all the synergies and cause-and-effect links between these sub-systems.

So why aren't these wonderful examples replicated around the globe? Because business-as-usual is an extremely huge inertia factor that prevents decision makers from venturing out of their comfort zones. One solution I can think of? Invest time in polishing the business case for such investments – and make life cycle costing (initial construction cost + use and maintenance costs for at least the first 20 yrs) part of the game!

Q3. Jaime Lerner and Enrique Penalosa have really put quality, pedestrian & transit focused planning on the map in Brazil, what else is happening in your country to push the envelop in City function & design?

BRT systems which have been extremely successful both in Curitiba and in Bogotá, have not enjoyed the same success in São Paulo, for instance. Any new system must be adapted to its new environment, and in the case of Rio and São Paulo there are strong political factors that get in the way. Maybe LTV would be a much better solution for these cities. We just do not have the space to spare any more – well, haven't had it for a long time already.

Unfortunately most cities in Brazil are still imprisoned in the road transit paradigm. All they can think of is to build more streets and roads (and tunnels and overpasses and bridges) to make room for more cars. Of course there is an effort to catch up with the supply of subway systems, but they are too expensive and take too long to implement, so that is not a de-facto solution either. And such planning is totally decoupled from GHG emissions in the construction of the infrastructure and its use! So I tend to favor LTV and BRT as mass transit systems, complemented by PRT systems for city centres, for areas where mass transit is not feasible and also to serve areas with less demand. One factor that differentiates the characteristic of PRT systems for large cities is the mean speed of the system – we need to travel at higher speeds because we need to cover much longer distances. And we need the elevated guide ways, because floods are becoming more and more frequent! Bicycles are not part of the solution in hot humid weather and in polluted environments – it gets people tired from the effort and the consumption of water for showers would increase terribly.





BRT in Brazil

Q4. As a planner in the 21st Century, can you share some of your thoughts on the inter-connected relationships between Land-Use, Transit & Energy?

We need to design the urban environment having in mind the fact that the shorter the distances one has to travel on a everyday basis, the less energy he/she will consume and the less transit he/she will generate, also saving lots of time there.

Thus, the mixed development approach is gaining a lot of space, and urban sprawl losing its attractiveness. Also decentralized renewable energy generation is showing its value, as well as decentralized waste and sewage treatment, which can be converted into energy to supply the local community.

Q5. What are some of the lessons learned from your time in private sector Marketing and Finance that help you succeed in your position today?

The need for trans~disciplinary teams in any endeavor is crystal clear. My extended academic and professional experience enables me to understand the need and the benefits from working with such teams. Unfortunately that is not yet a widely spread approach because it makes for higher up-front costs, but they invariably pay-off later.

Now the financial sector is something else altogether – that is a sector that suffers from "planning blindness" at its utmost level, still yearning for quick fixes and instant profits. How can economists go on predicting an 80% GDP growth for the US (Paul Krugman wrote that in an article this week) by 2050, ignoring the fact that the resources we rely on for life on earth are FINITE, thus apparently considering them irrelevant to the economic discussion? My experience enables me to make analyses like this one, which can make all the difference in deciding where and how and why to invest for the long term.

KOMPASS UPDATE by Per Janse, Co-coordinator of KOMPASS

Stockholm, Sweden

Finally, the Kjell Dahlström PRT investigation was ready to go public, and together with the Swedish Minister of Infrastructure, Åsa Torstensson, the result was presented at a recent press conference. Mrs. Torstensson stated that municipal interest was a strong incentive for the government to give Mr Dahlström the task to investigate where suitable places for a pilot PRT network can be found. The press kit is available [here](#) (including an English summary).

Among the 30 Swedish municipalities studied, Dahlström has identified 6 that he sees being "of particular interest":

- **Via Academica**, Stockholm (includes the Stockholm University)
- **Uppsala** (70 km north of Stockholm, pop. 200.000).
- **Södertälje** (36 km south of Stockholm, pop.80.000).
- **Umeå** (in Northern Sweden, a University town, pop.75.000).
- **Eskilstuna** (80 km west of Stockholm, pop.95.000).
- **Uddevalla/Trollhättan** (80 km north of Gothenburg, pop.100.000).

The larger projects would present more data to evaluate, but are also more expensive to complete, stated Dahlström. Careful not to halt the process of growing more local interest for PodCars in Sweden, he agrees that the appointment of the 6 prime locations must not prevent other projects to develop or be newly born!

The report will now be distributed for comment from the whole array of Swedish political forces and institutions until December 11. Thereafter the government will take further steps and possibly appoint a place (or places) for (the first?) governmentally sponsored pilot network. PodCars have now rolled into the center of the Swedish national politics!

KOMPASS is a network aimed to stimulate and co-ordinate municipal interest and activities for PodCars / PRT.

PROGRAM

Tuesday 5.00.7.00 **Ice-breaking afternoon event -** Turning Torso, Limited capacity (75 people)

Wednesday **Climate Change and Sustainable Transportation – Malmö University**

8.30 Morning press conference
9.20 Coffee and Registration & Exhibitor Display
Moderator & Management presentation, KOMPASS, Sponsors

10.00 Official opening, Transportation manager City of Malmö, Swedish Minister for Communication, KOMPASS Chairman

MORNING THEME – State of World Mass Transportation and Possibilities

10.15
10.40 CO2 Transportation and the Energy – Debbie Cook, Association for the study of Peak Oil & Gas USA
11.05 Tata Nano - Mobility Opportunity or Challenge – V Sumantran, former TATA Executive, India
11.25 Podcar Cities – Kjell Dahlström, Swedish Ministry of Enterprise
11.45 The Silicon Valley Challenge - Hans Larsen, San Jose, USA
Industrial Outlook for Podcars – Nick Frost, Frost & Sullivan, UK

12.05
***** Lunch *****

AFTERNOON THEME – Implementation, Operation and Research

1.10
1.30 ULTra at Heathrow – Malcolm Buchanan, Colin Buchanan UK
1.55 Podcars at Masdar – Robbert Lohmann, 2Getthere Netherlands
2.20 Vectus system in Uppsala – Jörgen Gustafsson, Vectus Sweden
2.45 Morgantown 35 years of operations, Vishakha Maskey, WVU USA
Panel debate – Moderated by Bo Olsson, Swedish Rail

3:00
Exhibitors Display & Coffee
3:30 Modelling travel data- G. Tegner, WSP Sweden
3.45 Modelling and Software Innovation – Prof. Ingmar Andréasson, Sweden
4:00 Uppsala Virtual Travel Center – Prof Crista Lopes / Prof CJ Engström USA/Sweden
4.20 Day 1 Panel Discussion - Moderator David Muyres, VP Hunt Green LLC USA
4.40
DINNER with sponsor presentations and special entertainment event
7:30 Keynote Speech by Environmental infomer TBA

Thursday **Sustainable Cities – Real Estate Development & Research – Malmö University**

9:00 TRACK S 9.00-1200 **Real Estate & Development invitation** to attending Cities, TBA
TRACK R 9.00-12.00 ATRA Program: **Innovation and Research Program** TBA.

12.00 AFTERNOON – WORLD OUTLOOK

1.10 1.10 Health Effects on Transport – TBA
1.35 1.35 DG Solar Energy for Transportation – Ron Swenson, USA
2.00 2.00 DOT Program for Sustainable Transportation – TBA
2.25 2.25Open, TBA
2.50 2.50 Let's work together – Christer Lindström & Magnus Hunhammar
3.00 Exhibitors Display & Coffee

3.40 FINAL PANEL DISCUSSION – Moderator Hans Lindqvist, KOMPASS

NOTE! We now have 115 registrations, and only 55 hotel rooms left!
Please register ASAP to secure your participation Due to the COP15
conference there are NO CLOSE HOTEL ROOMS AT ALL!