citysnap

Shaping The Future of Supply Chain
"Contactless CitySnap Mobile Locker Stations or POS"

VB5-S

Unique and Innovative Differentiator

"CitySnap" is more than just a vehicle, it aims way beyond

"CitySnap" represents a comprehensive, efficient, customer friendly and sustainable "Supply Chain" system

Statement

Outlook

Online Commerce will grow globally, the existing infrastructure, the delivery methods and the customer experience need to adapt, improve, grow and - change. New and preferably contactless solutions are needed soon.

“Snap” - 2018

Innovator Initiative

Traditional Automobiles have coupled the mobility hardware with internal cabin design and hence limiting the usability and productivity of the automobiles. “Snap” solves this problem with an innovation that will disrupt the mobility industry.

“microSNAP” - 2019

A Unique, Unprecedented and Proprietary Mobility- and Eco-System

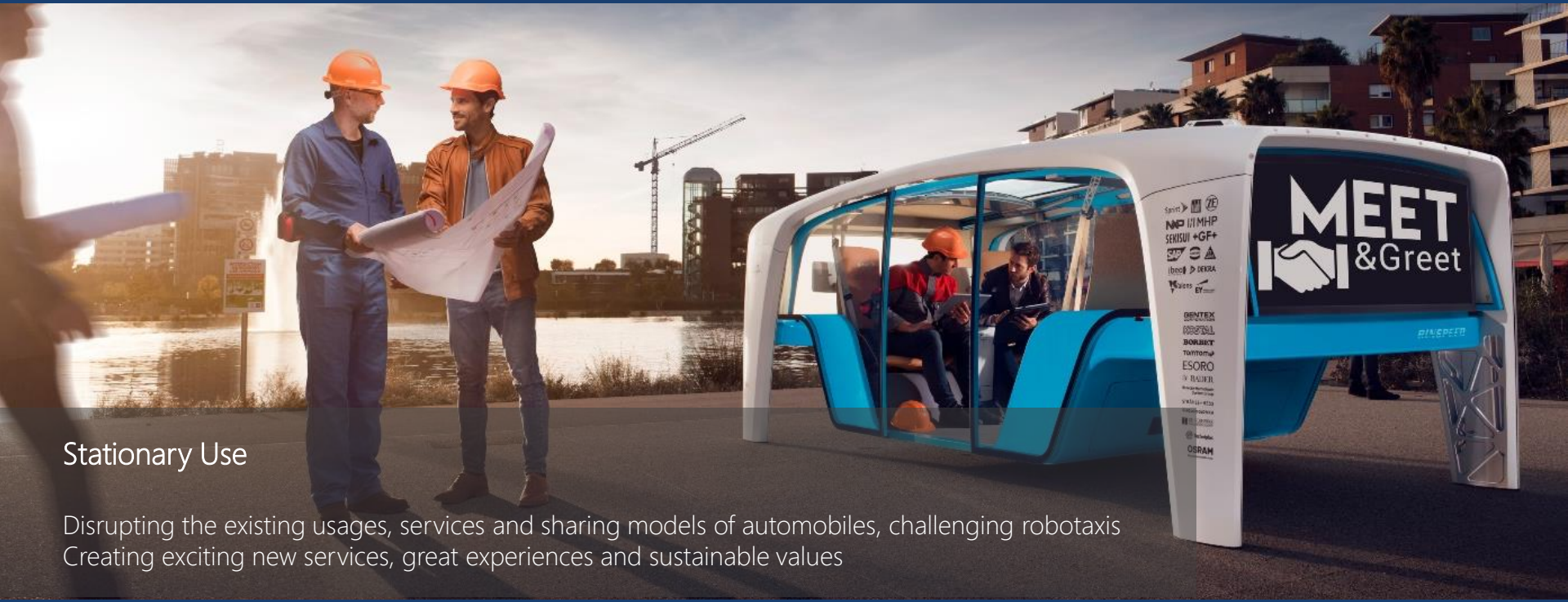
Addressing and solving the needs of future urban mobility and the requirements of new technologies

“MetroSnap” - 2020

Modular Vehicle Hurdles - The Key Solution

Swift, easy, safe, proven and cheap swapping system

“SnapMotion”



Stationary Use

Disrupting the existing usages, services and sharing models of automobiles, challenging robotaxis
Creating exciting new services, great experiences and sustainable values

Introduction to Rinspeed

RINSPEED snap motion

Introduction to Rinspeed

Founded by Frank M. Rinderknecht in 1977 following his passion for individual mobility.
In the early 80s, Rinspeed was one of the initiators of the - at that time - not existing tuning and customizing industry.

In 1995, Rinspeed introduced their first concept car at the Geneva Motor Show. Since 2008, Rinspeed is fully dedicated to the future of mobility.

Rinspeed Overview

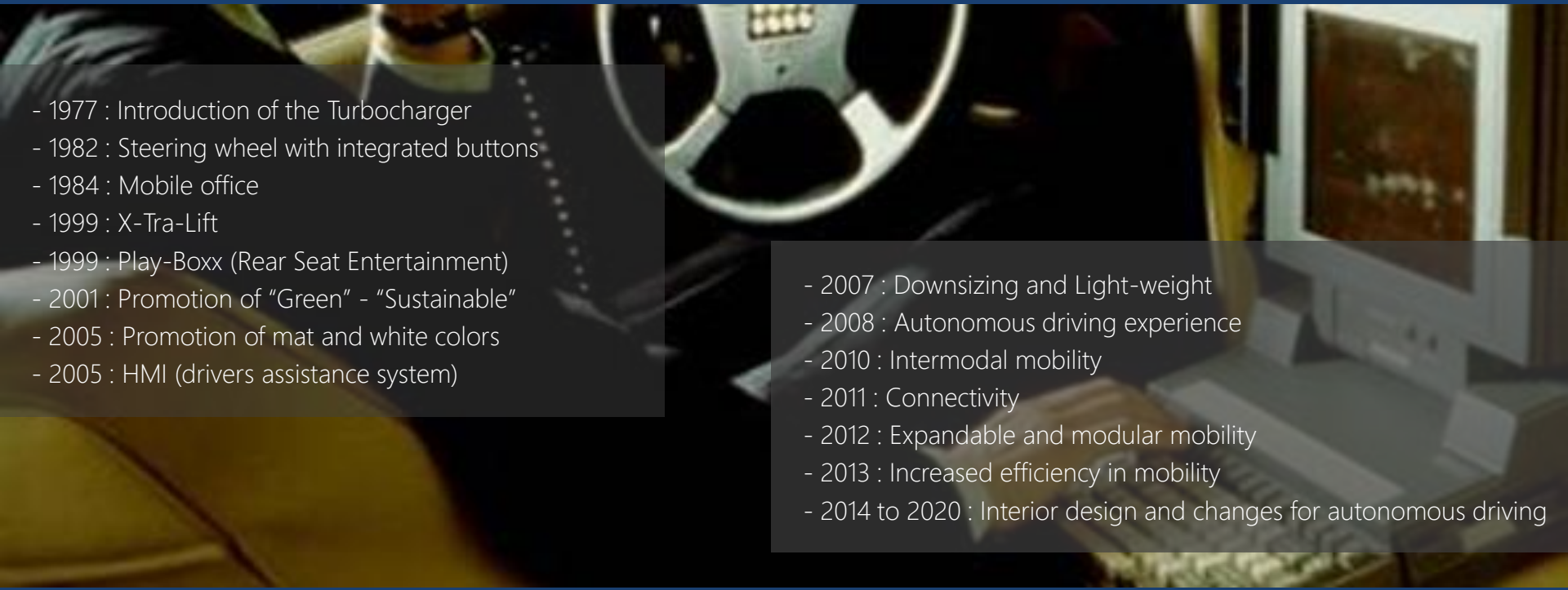
Profile

- Leading independent concept car and prototype builder
- Advanced sustainability and mobility concepts and ITS
- Innovation sparring and consulting
- Communication and networking
- Cutting-edge think-tank and mobility lab
- Worldwide unique positioning

Mission

- Forty-two years of start-up thinking and acting
- The passion for customer needs
- Innovative, disruptive and holistic approach
- Trend scouting and trend setting
- Out-of-the-box and move borders
- Thought leadership
- Think tank

Pioneering & Achievements



- 1977 : Introduction of the Turbocharger
- 1982 : Steering wheel with integrated buttons
- 1984 : Mobile office
- 1999 : X-Tra-Lift
- 1999 : Play-Boxx (Rear Seat Entertainment)
- 2001 : Promotion of "Green" - "Sustainable"
- 2005 : Promotion of mat and white colors
- 2005 : HMI (drivers assistance system)

- 2007 : Downsizing and Light-weight
- 2008 : Autonomous driving experience
- 2010 : Intermodal mobility
- 2011 : Connectivity
- 2012 : Expandable and modular mobility
- 2013 : Increased efficiency in mobility
- 2014 to 2020 : Interior design and changes for autonomous driving

Concept Cars

Some of The Twenty-Six Unique Visions (1995 - 2020)







Problems and the Solution

RINSPEED snap motion

Market Considerations - Deliveries

Basic Problems

- Need or lack of drivers
- Inefficient tours with many stops
- Last meter/hand-over obstacles
- High "no show/no delivery" rates
- Limited office hours and distance to same
- Little to no consolidation of goods or destinations
- Growing volume of parcel deliveries with a growing caravan of delivery vehicles
- Unsatisfying customer service
- Customer ignorance of deliverer
- Low margins
- Political head wind

Transformation ahead

Market Considerations - Deliveries (cont...)

Possible Solutions

- Bring the service to the customer and not vice versa
- Redefine and implement new services and approaches
- Increase delivery efficiency and reduce TCO/TCM
- Reduce amount of "manual handling points" and manpower

- Evaluate the advantages and disadvantages of
    - fixed packing stations
    - robo vehicle deliveries
    - robo dog/droids and drone deliveries

Re-Think! Potential

Conclusion

In a Nutshell

Deliveries
- innovative solutions are needed today - for TCO/TCM and Customer Service
- possible solutions need to be adaptive for upcoming vehicle generations

Level 4 and Level 5 Autonomous Driving
- will take time
- will redefine the vehicles
- will redefine their usage
- will redefine the corresponding business cases

"CitySnap"

Project Description “CitySnap”

RINSPEED snap motion

Statements

Unique and innovative Differentiator

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"CitySnap" represents a comprehensive, efficient, customer friendly, contactless and sustainable "Supply Chain" system

“CitySnap“ PoC Vehicle

For today
L2+

The “Pods” are unloaded easily, safely, cheaply to stationary or mobile platforms.

PCT Patent Pending

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Wide Variation of “CitySnap” Usages

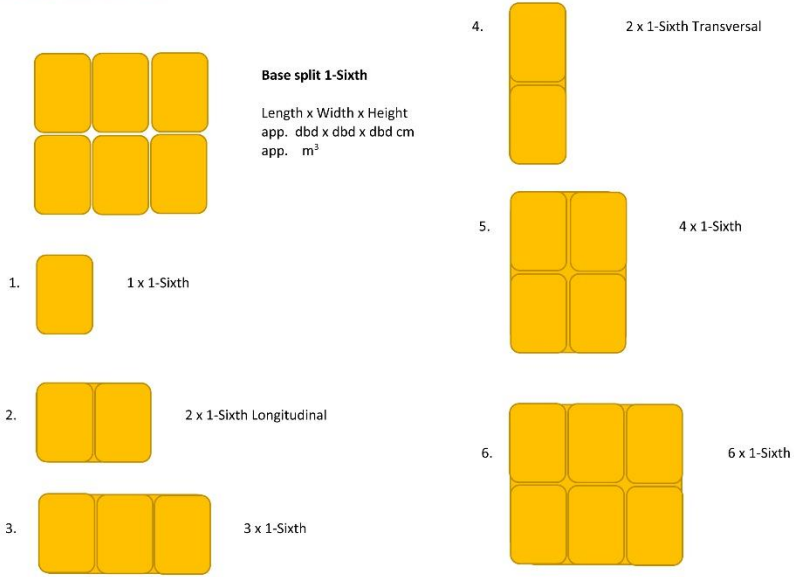
Offering a great Variability for different Usages

- modular parcel stations in different sizes and configurations
- modular POS in different sizes and configurations
- platforms in different sizes for oversized and/or heavy shipments
  (e.g. kitchen appliances)
- pallets in different sizes for all kind of goods
- partial of full space for conventional parcel deliveries
- or mixed

One versatile vehicle serves all needs

Pod or Platform Variations “CitySnap”

Possible Pod Combinations CitySnap - all segments also be used for **conventional** and/or **pallet** deliveries methods



Advantages “CitySnap”

Solving many Problems with a unique Approach

Contactless Deliveries
- quick, safe and easy unloading and loading of “Pods”
- inexpensive and proven infrastructure
- reducing number of stops
- reducing “no show/no pick-up” rate
- moving higher volume of parcels
- reducing theft rate
- reducing number of handling/touch points
- optimizing and simplification of delivery processes
- reducing number of vehicles and drivers
- reducing of “unloading vehicle obstacles” in traffic, increasing safety
- reducing CO2 footprint
- if consolidated, one delivery to one address/spot/neighborhood

Reducing TCO/TCM

Advantages “CitySnap” (cont…)

Solving many Problems with a unique Approach

Customer Experience
- will increase thru shorter distance to pick-up/drop-off
- will increase by around-the-clock contactless access
- will increase by flexibility and efficiency
- could increase by mixed offerings, e.g. convenience products

→ Increasing CX and Convenience

Homologation/Registration
- little to no additional requirements by law, except existing standards

→ Saving lengthy and expensive Procedures

Servicing/Repairs/Updates
- all done at the hub, no “flying doctor” needed

→ Easy Servicing

Advantages “CitySnap” (cont…)

Solving many Problems with a unique Approach

Hardware
- off-the-shelve (electric-hybrid-ICE / OEM) drivetrains
- proven, safe and easy swapping technology from 1’840+ airports in the world
- many readymade industrial storage, handling and usage applications for “ULD’s” (Universal Loading Devices)
- minimal required space for customer touch-points

Easy Build-Up

Strategic
- seamless carry over to L5 of “CitySnap” systematic

Future Compability

Other possible Versions of “CitySnap”

Mobile POS

- Groceries “Grab&Go”
- Health products outlet
- Construction site small parts and toolbox
- Frozen products outlet
- Etc.

New Opportunities “CitySnap”

New Opportunities

Deliveries
- cut costs, increase flexibility and scalability
- profit growth potential
- attract driver
- wide coverage - urban and extra-urban
- high level and unique supply chain logistics
- new fields of activities (e.g. convenience, pharmacy, construction site, etc.) and customer access and data

Services
- will increase differentiation to competitors
- expansion of markets by new fields of activities (see above)

Case Study “CitySnap” - Executive Summary

RINSPEED snap motion

Fact + Figures*

Shifts in Parcel Delivery Business

- Urbanization and growing e-commerce will tremendously increase parcel volumes in the city centers for the foreseeable future. It expected that overall parcel volume grow 4.7% p.a. - not taking into account additional growth from COVID-19

- Scaling of current last-mile concepts is constrained (high last mile costs, limited further scalability, driver availability, etc.) and impacted by city regulation (e.g. maximum number of vehicles, city taxes, double parking)

- Parcel operators need to re-think the current operating model and focus on increasing customer experience while optimizing efficiency at the same time

* Compiled and analyzed by one of the Big Four accounting and consulting firms / Data refers to the 20 biggest cities in Germany

Fact + Figures*

€0.28 Cost advantage per Parcel

- The analysis determined that the "CitySnap" model brings significant savings versus conventional parcel delivery (Costs per parcel: €1.37/parcel ("CitySnap)" vs. €1.65/parcel (conventional parcel delivery)
- The main drivers of the €0.28 decrease in cost are the personal expenses **(-36%)** and the vehicle expenses **(-24%)** that are supported by the flexibility towards different last-mile concepts (e.g. lockers, micro-hubs)
- Enhanced productivity of the employees and better asset utilization (e.g. reduced unproductive waiting times in the depot and while delivering parcels) outweigh additional costs for pods and infrastructure

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Fact + Figures*

Reduced Externalities

► Besides cost effects the CitySnap model improves externalities of parcel delivery such as job attractiveness, customer satisfaction, congestion and CO2 emissions

► Job attractiveness is tremendously improved due to the ease of on- and off-loading, fewer misdemeanors and less complex routing. Additionally, as manual work under non-ergonomically circumstances is reduced physical health of the driver is expected to improve - resulting in fewer sick days

► The increased efficiency results in significantly less vehicles **(-53%)** required to deliver the same amount of parcels. In conjunction with reduced time in city centers - due to faster delivery of parcels - this will lead to less congestion in the inner city (time in city centers **-120h p.m.**) and reduced C02 emissions per parcel **(-6%)**.

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