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## **A Best Practice Model for Deploying Wi-Fi On Board**

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**PointShot Wireless™**  
provides broadband wireless  
voice and data for in-motion  
environments.

**Broadreach Networks**

**ALSTOM**



**PARSONS**



**PointShot Wireless™** is  
the leading provider of on-  
train wireless Internet  
deployments.



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# Optimizing the Passenger Experience

*A Proven, Best Practice Approach*



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# Start with the Passenger

## Passengers:

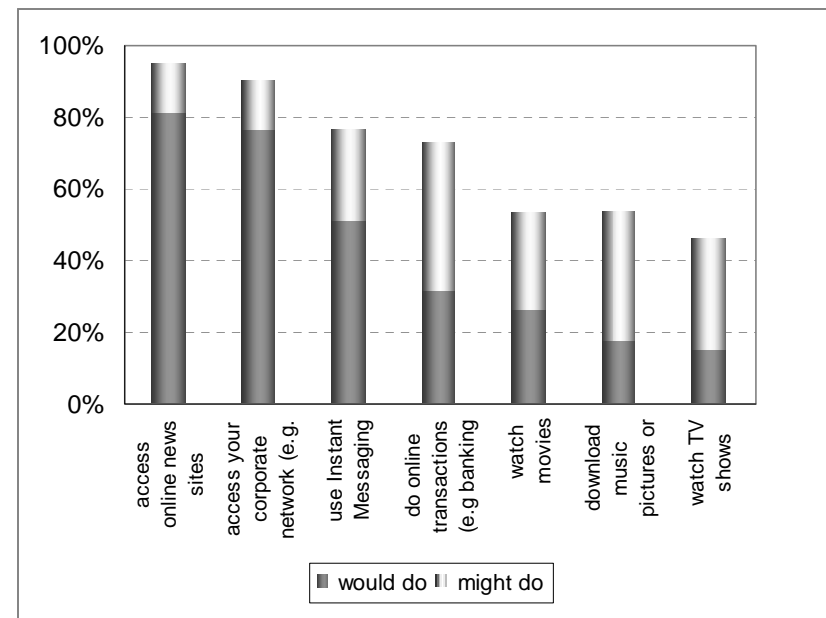
- Needs for bandwidth are different
  - Applications have different bandwidth requirements
- Unpredictable traffic volume
  - Volume changes by stop, time of day, etc.
- Business travelers demand performance



# What Do Passengers Want?

## Passenger expectations for internet on trains:

- Most common:
  - Send and receive email
  - Connect to corporate networks (VPN)
  - Surf the web – favorite sites
- Others:
  - Take online courses
  - Complete transactions
  - Instant messaging



# The Reality of WAN Networks

**Problem:** There are numerous disparate WAN networks with spotty coverage and “network holes” as you move across geography.

## Metropolitan Areas

**Challenge:** Frequent physical obstructions

**Solution:** Patented WAN integration technology. RailPoint Server maintains contiguous data signal as the train moves along the route, using a combination of cellular and satellite connectivity. RailPoint dynamically switches to the optimum signal to ensure the data signal to end-users is constant.



## Tunnels

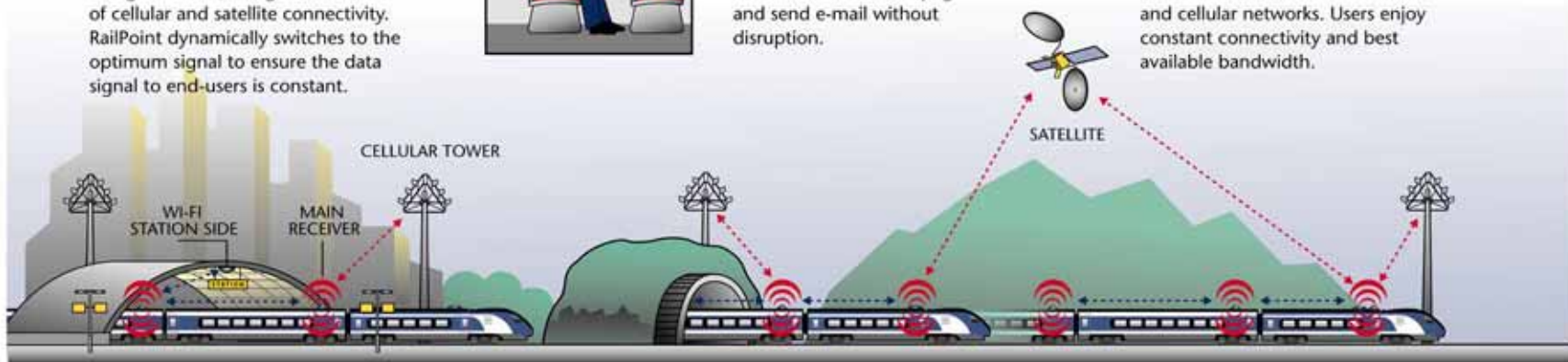
**Challenge:** Network holes

**Solution:** When networks are not available, RailPoint performs web content caching and mail store-and-forward. Users continue to view web pages and send e-mail without disruption.

## Rural Terrain

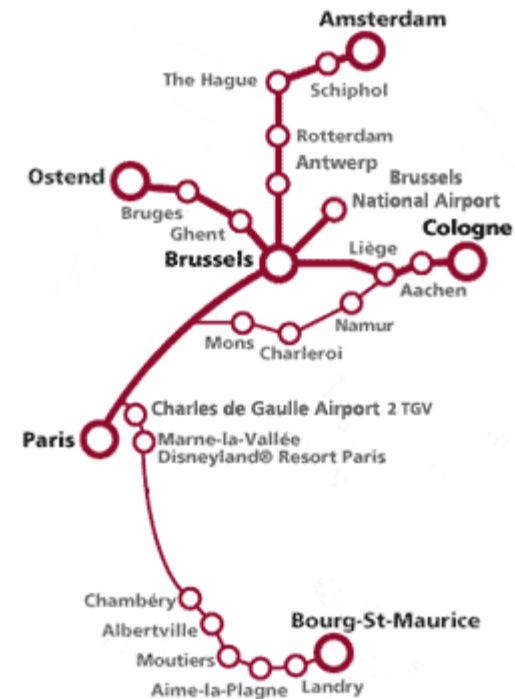
**Challenge:** Gaps in cellular coverage; hills and trees obstruct line-of-sight

**Solution:** RailPoint’s WAN integration technology performs dynamic link quality assessment and seamlessly switches between available satellite and cellular networks. Users enjoy constant connectivity and best available bandwidth.



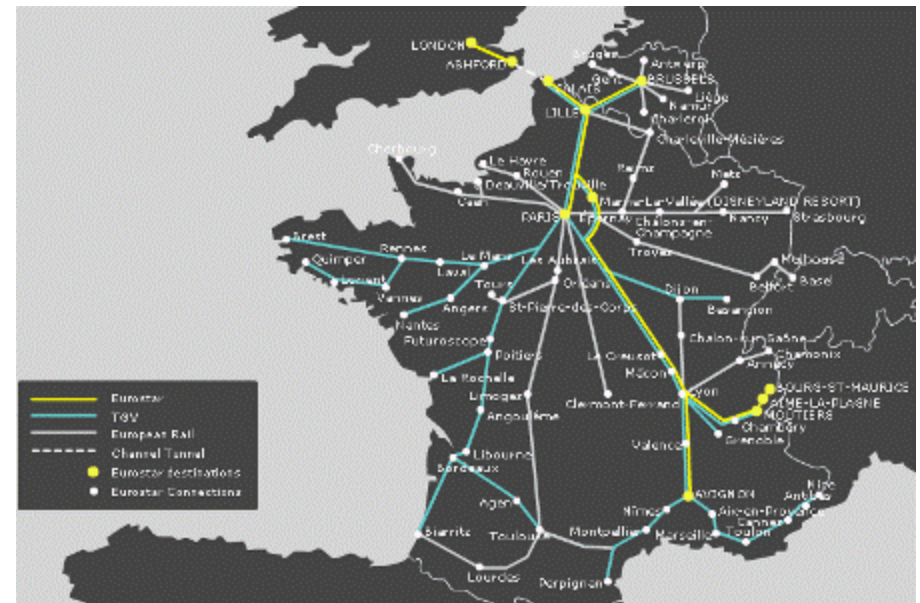
# Managing the Route

- Network availability and signal strength impact the passenger experience
  - Networks (UMTS, GPRS, ...) are not always available along train routes
- Routes often have terrain that create coverage holes

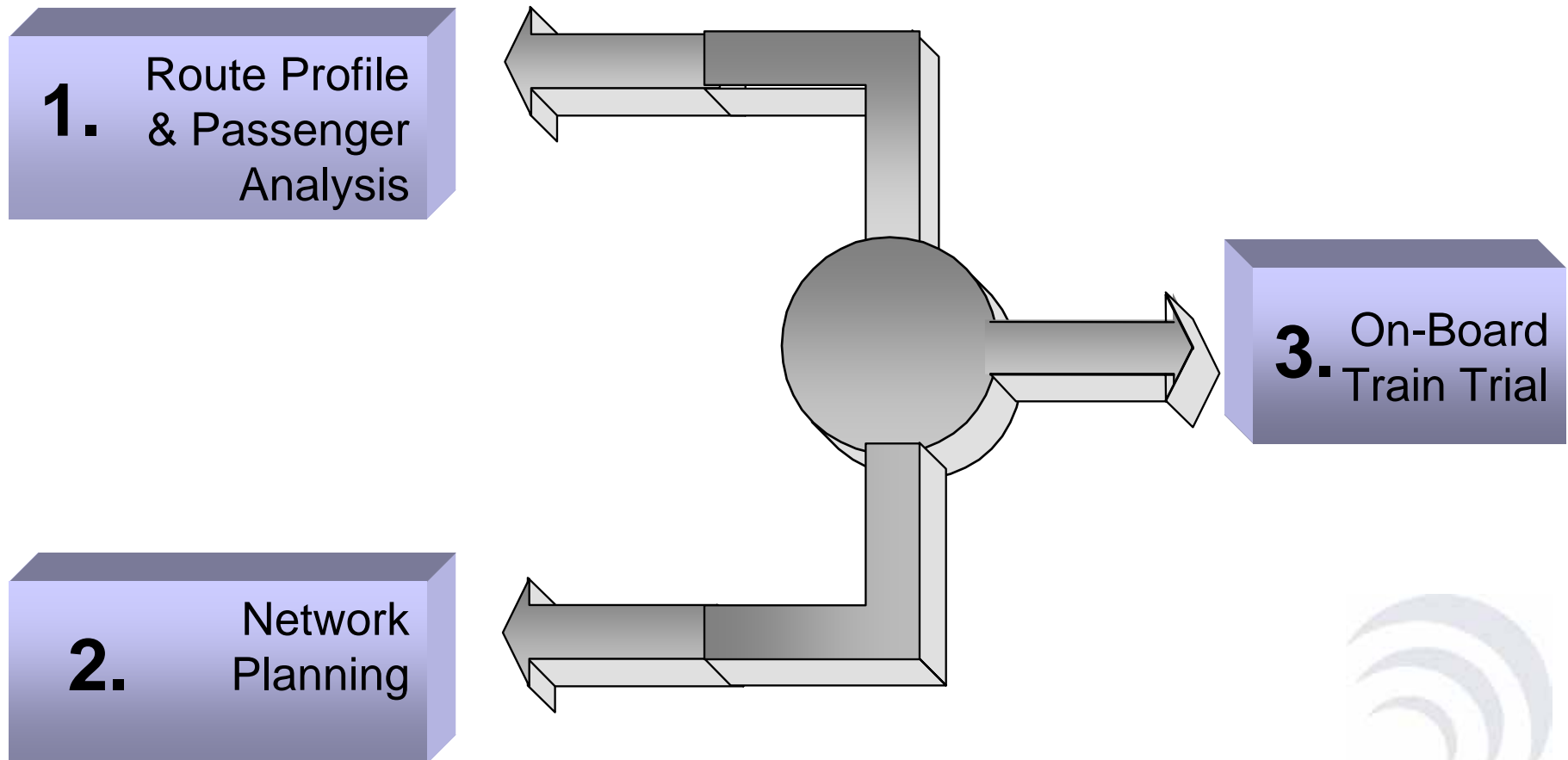


# Deploying Wi-Fi On-Board Critical Success Factors

1. Profile passengers and usage preferences
2. Assess the network availability along the route
3. Configure systems to optimize the available network(s)
4. Test the configuration to ensure the optimum passenger experience



# PointShot's 3 Stage Deployment Process





# Deploying Wireless Internet on Trains Requires Best of Breed Consortium



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# The Ecosystem

- ☺ Rail ecosystem is filled with experienced skilled suppliers
- ☺ Deploying products/services requires expertise of all members
- ☺ A rich set of partners to engage with, all of whom bring specific knowledge and skill
- ☺ Consortium delivers best of breed to rail operators





# Leader of In-Motion Broadband Wireless

**BroadreachNetworks**

*"I couldn't encourage this service more. This will change the way I view my commute. Please roll it out as fast as possible."*

THE CAPITOL CORRIDOR



**ALSTOM**



**ACE**  
ALTAMONT COMMUTER EXPRESS



*"I look forward to having the service on all cars on all trains. The wireless car is more full than others."*



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