



# RAD

## Company Profile

**Samuel Matzevich**  
**Regional Director**



- The ***Service Assured Solutions*** Company:

- Наше особое внимание: разработка решений для операторов **фиксированной** связи "Бизнес сектора" **B2B**, решениях для оптовой (меж-операторами) торговле **B2O** , решениях для операторов **мобильной** связи, а так-же критически важных коммуникационных решений для услуг связи в **энергетики, транспорте** и предоставление **государственных услуг** связи **B2G**)
- Value for **Service Providers** – increased revenues and reduced Total Cost of Ownership (TCO) .. увеличение доходов и снижение совокупной стоимости владения (TCO)
- Value for **Power Utilities, Transportation and Government** – evolutionary, resilient and secure evolution to packet network technology (эволюционный, отказоустойчивый и безопасный эволюционный переход к пакетным сетям)



# Customer-Facing Values



## RAD is **Well Established**

- Founded in 1981, 30+ years of experience
- The anchor of **The RAD Group** of companies, with a combined aggregate revenue of over \$1.2 billion
- 30 offices with 1,000 employees worldwide, supporting 300 sales channels in 165 countries
- Installed base of more than 12 million units



**RAD's  
International  
Headquarters**

# RAD Data Communications в группе компаний RAD



Общее количество сотрудников = 4 500  
Объем продаж на 2012 = 1,2 миллиарда долларов



\* Акционерные компании открытого типа

# Customer-Facing Values



RAD is the **Choice** of leading service providers and power and transportation utilities

- Focusing on **retail, wholesale** and **mobile service providers** and mission critical communications solutions for **power utilities, transportation** and **government**
- More than **150,000** of RAD's **ETX NIDs** have been deployed by worldwide carriers
- Power and transportation utilities spanning six continents depend on RAD's evolutionary migration solutions to transport **mission-critical** communications





# Customer-Facing Values



## RAD is **Flexible & Responsive**

- Built the **ETX-5 Ethernet Aggregator** and **ETX-2 NIDs** to address Ethernet scaling and cost challenges expressed by service providers around the world
- Frequently acts as an “In-House R&D Arm” for co-developing required new solutions
- Vertically integrated R&D and manufacturing to respond quickly to evolving needs
- All in-house development and ownership of IP



# Customer-Facing Values



## RAD is **Innovative**

- Approximately 30% of RAD's employees are actively engaged in R&D
- Advanced technology proofs of concept underway to increase top line Ethernet revenue, improve network efficiency and customer QoE:
  - NFV/X.86-based business access gateway
  - SDN-based application awareness

## **Pioneers in:**

- Distributed-NFV
- Timing Technology
- Miniaturization
- TDM Pseudowire



*"We have often seen RAD among the first out of the gate with new product innovation impacting the mobile backhaul space."*

Patrick Donegan, Senior Analyst,  
**Heavy Reading**



# Customer-Facing Values



RAD has **OSS Integration**



# Leadership Awards



- **MiNID** – Most Innovative Telecom Product
- **Service Assured Access** – Broadband Innovation of the Year
- **ETX-5** – Best Carrier Ethernet Aggregation Product
- **ETX-2** – Best Carrier Ethernet Demarcation Product
- **ETX-2** – Best Carrier Ethernet Mobile Backhaul Product



# RAD's Worldwide Presence

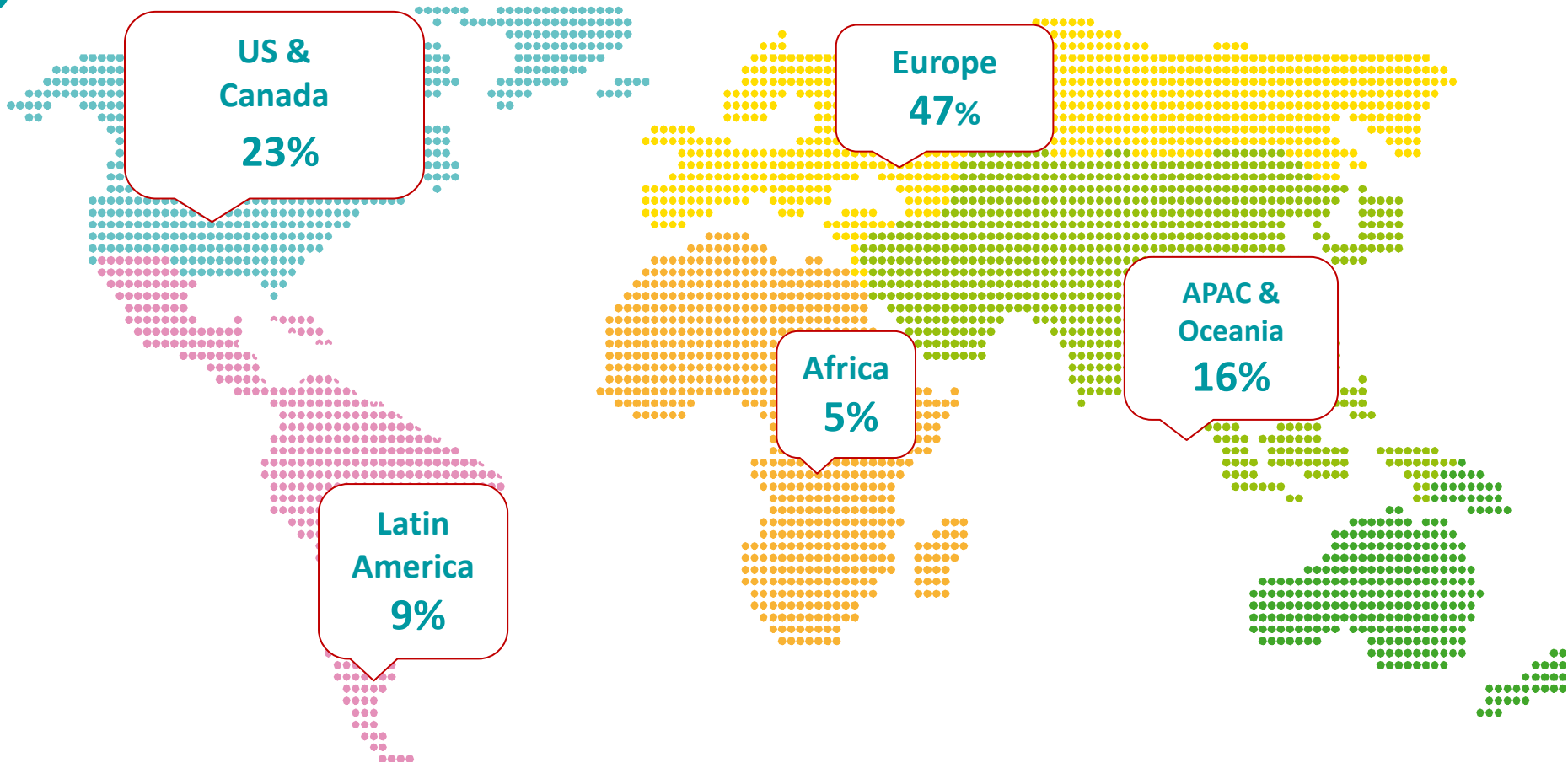


**300 sales partners in 165 countries**  
**30 offices worldwide**  
**Total RAD Sales in 2013 = ~\$150 Million**

# Sales Distribution



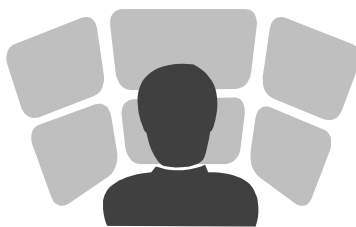
## Worldwide Sales Distribution 2013



# Основные решения



CE20  
MEF  
CERTIFIED

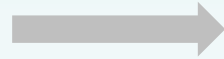


## Операторы связи

Решения доступа с  
гарантией качества



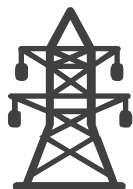
Подключение  
бизнес-клиентов по  
Ethernet



Услуги сетей связи

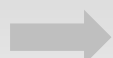


Операторы  
мобильной связи и  
выделенные линии



## Энергетики

Решения «плавного  
перехода» на новые сети



Технологическая  
связь



Связь между  
подстанциями

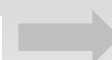


Передача  
команд РЗ и ПА

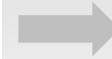


## Транспорт и госструктуры

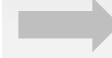
Традиционные и новые  
сети связи (пакетные сети)



Железные дороги



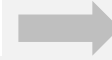
Морской транспорт



Аэронавигация



Автотранспорт



Правительственные и  
оборонные структуры

# RAD Service Assured Solutions



# Utilities Service Assured Networking Solution



## Substation Multiservice

- Voice, data, TP, LAN
- Hybrid Connectivity with Traffic Duplication



## Teleprotection

- Differential and Distance Teleprotection
- TP over PDH/SDH/PSN



## Secure Automation communication

- 61850-3 switch/Router
- SCADA protocols conversion
- SCADA Firewall



## Operations Core

- Carrier Grade Ethernet
- SONET/SDH



## Distribution Automation and Smart meters Backhauling

- Connectivity over Cellular, P2P and P2MP Radio or Fiber Optic
- Integrated Encryption and Firewall

# Transportation & Government



## Railway, Metro & Highway

- CCTV onboard
- Internet service onboard
- Railway crossing accident prevention
- Road maintenance and control



## Airports & Maritime

- Air Traffic Control connectivity
- “Follow Me” car communications
- Ships to oil rigs and ship-to-shore connectivity



## Military & Security

- Border Control
- Police and urban security forces
- Airports, strategic facilities, prisons, plants security
- Unmanned ground vehicles with mobile cameras



# RAD Forum Contributions



## Metro Ethernet Forum

- Service Activation and Testing (SAT)
- Yoav Cohen, RAD's IPR and Standards Expert, received Outstanding Contributor Award



## Broadband Forum

- TR-221 (Technical Specifications for MPLS in Mobile Backhaul Networks) and WT-224 (MPLS for Carrier Ethernet), leading contribution to CPE virtualization tasks
- Ron Insler, RAD R&D Manager, received Circle of Excellence Award



## European Telecommunications Standards Institute

- NFV Industry Specification Group (ISG) – Distributed NFV



## Internet Engineering Task Force

- Network management, pseudowire emulation, performance measurement and more
- Dr. Yaakov Stein, RAD CTO, co-chairs TICTOC Working Group and is a member of the IETF Performance Directorate

## IEEE



- 1588 timing distribution
- Alon Geva, RAD authority on timing synchronization, member of 1588 Conformity Alliance Committee of Experts

## ITU-T



- Pseudowire technologies
- Ethernet OAM (Y.1731)
- Timing/synchronization issues including Synchronous Ethernet



**Thank You  
For Your  
Attention**



[www.rad.com](http://www.rad.com)