



# User Meeting

Karachi, Pakistan

June 2016

# MikroTik

- Established 1996
- RouterOS created in 1997
- RouterBOARD created in 2002
- First MUM event in Prague 2006
- Biggest MUM in 2015, Indonesia - 2600+ people
- More than 170 employees





The image shows a map of Europe with the Mikrotik logo overlaid in the center. The logo consists of a stylized bird icon above the word "Mikrotik" in a bold, italicized sans-serif font. The country of Latvia is highlighted in a solid green color. The map includes labels for various European countries such as Iceland, Norway, Sweden, Finland, Denmark, Germany, France, Spain, and others.

**Mikrotik**

**Latvia**



# More than 120 MUM events all Around the World





# What we do

- MikroTik provides networking equipment for all possible uses - wireless, ethernet and switching
- RouterOS software supports most common and also many custom made features



# MikroTik at the MUM

- Edmunds Aperāns (Sales, Training + Academy)
- Mārtiņš Strods (Support)
- Pauls Jukonis (Support)





# Schedule

12:45-14:30	Namaz Break
17:00	Raffle

<http://mum.mikrotik.com/2016/PK/agenda>



# MUM Live stream

[www.youtube.com/mikrotik](http://www.youtube.com/mikrotik)

Special  
Thank you!

**Dreams Network  
And Technology  
(PVT.) Ltd**



# RouterOS

- MikroTik RouterOS is the operating system of RouterBOARD hardware
- Stand-alone operating system based on the Linux Kernel
- Routing, Firewall, QoS, Wireless, Hotspot, VPN and more...

# Why us

- Millions of RouterOS powered devices currently routing the world
- 20 years of experience in developing networking software and hardware
- Over 40'000 RouterOS trained and certified network engineers

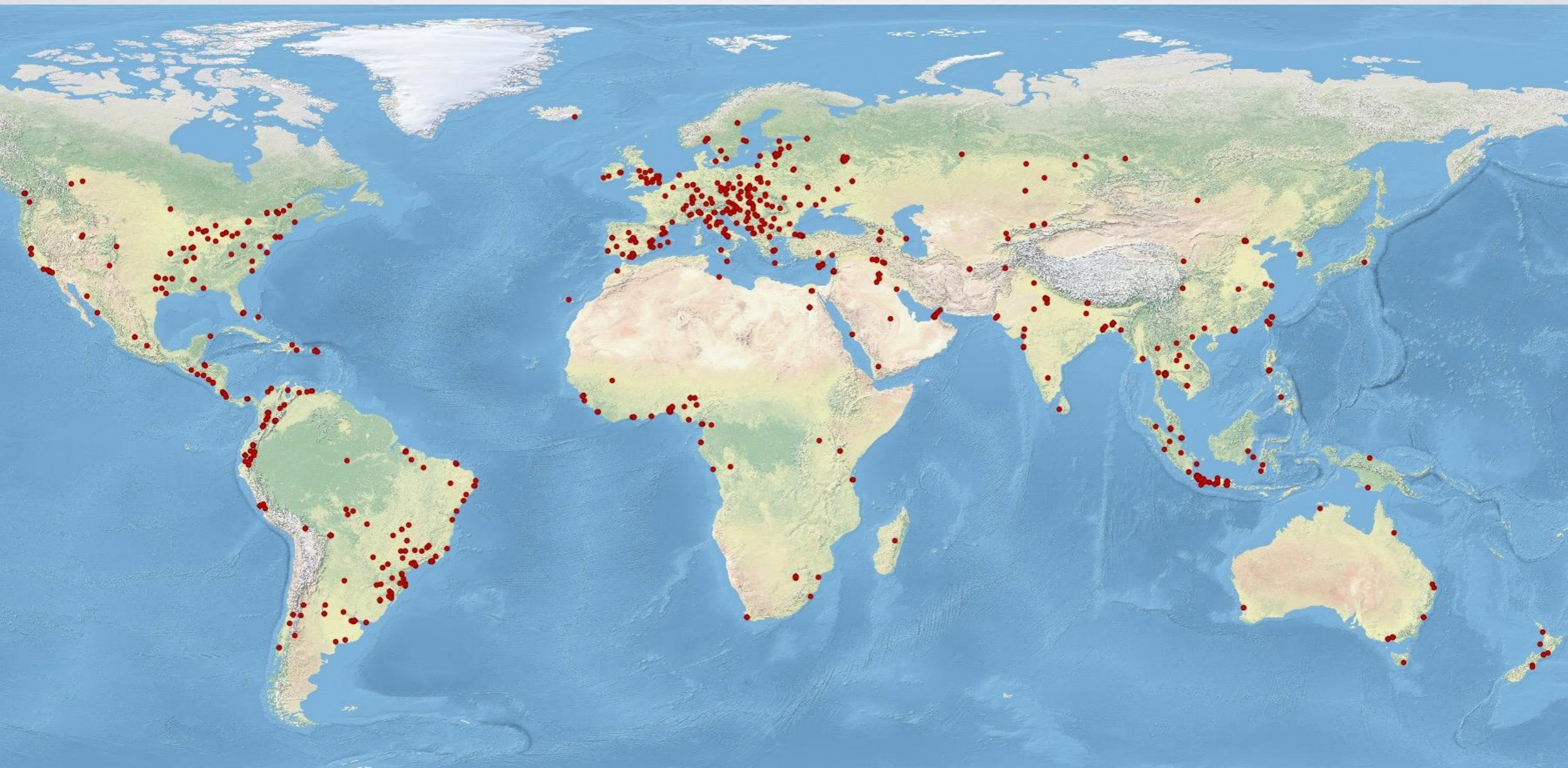


# Why us

- More than 3000 training classes in 2015
- World wide network of certified consultants
- Offering products for both simple home usage and complex enterprise networks
- Thousands of pages of documentation, examples, application notes and guides



# MikroTik Certified Trainers





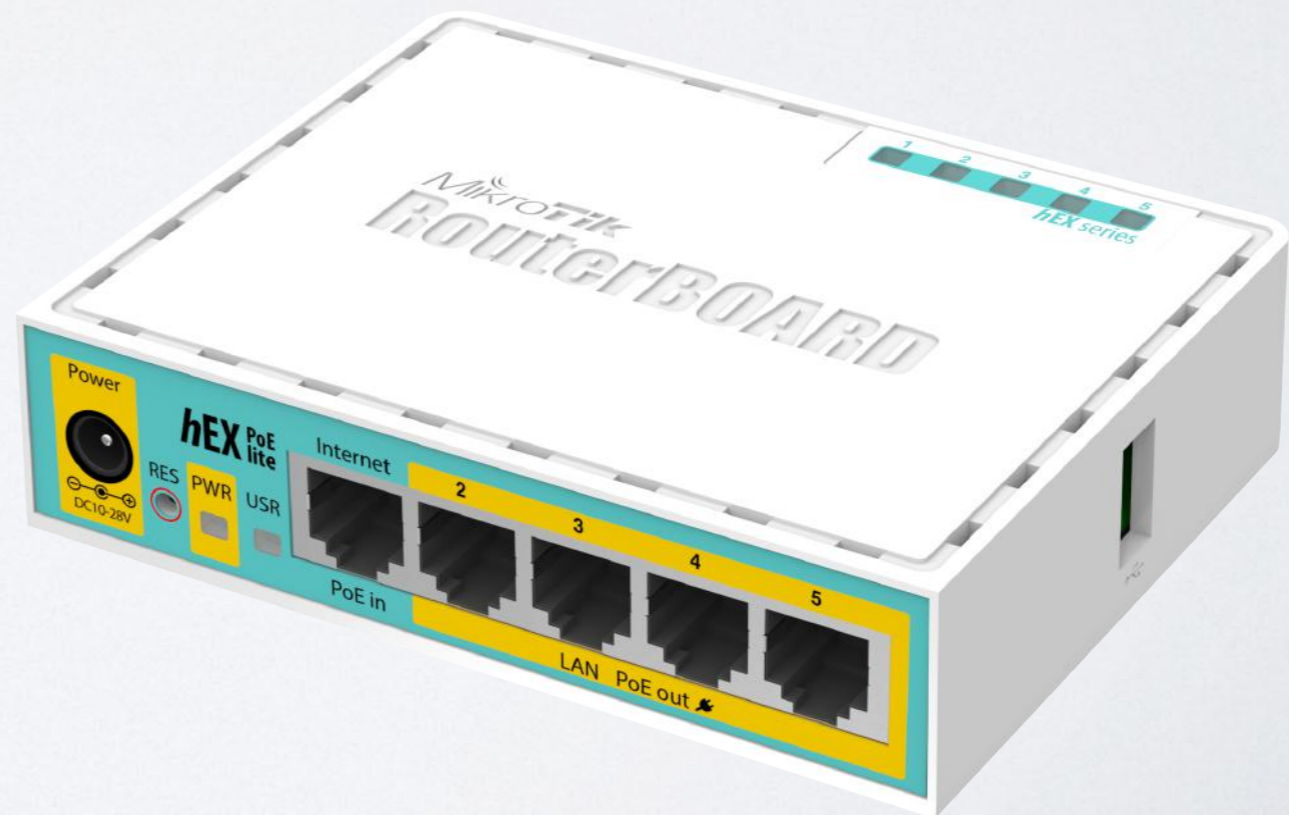
# PRODUCT SERIES

# ETHERNET ROUTERS



# hEX lite

- Small Ethernet device
- Five Fast Ethernet ports
- Power output version (hEX PoE lite)



# RB2011 and RB3011

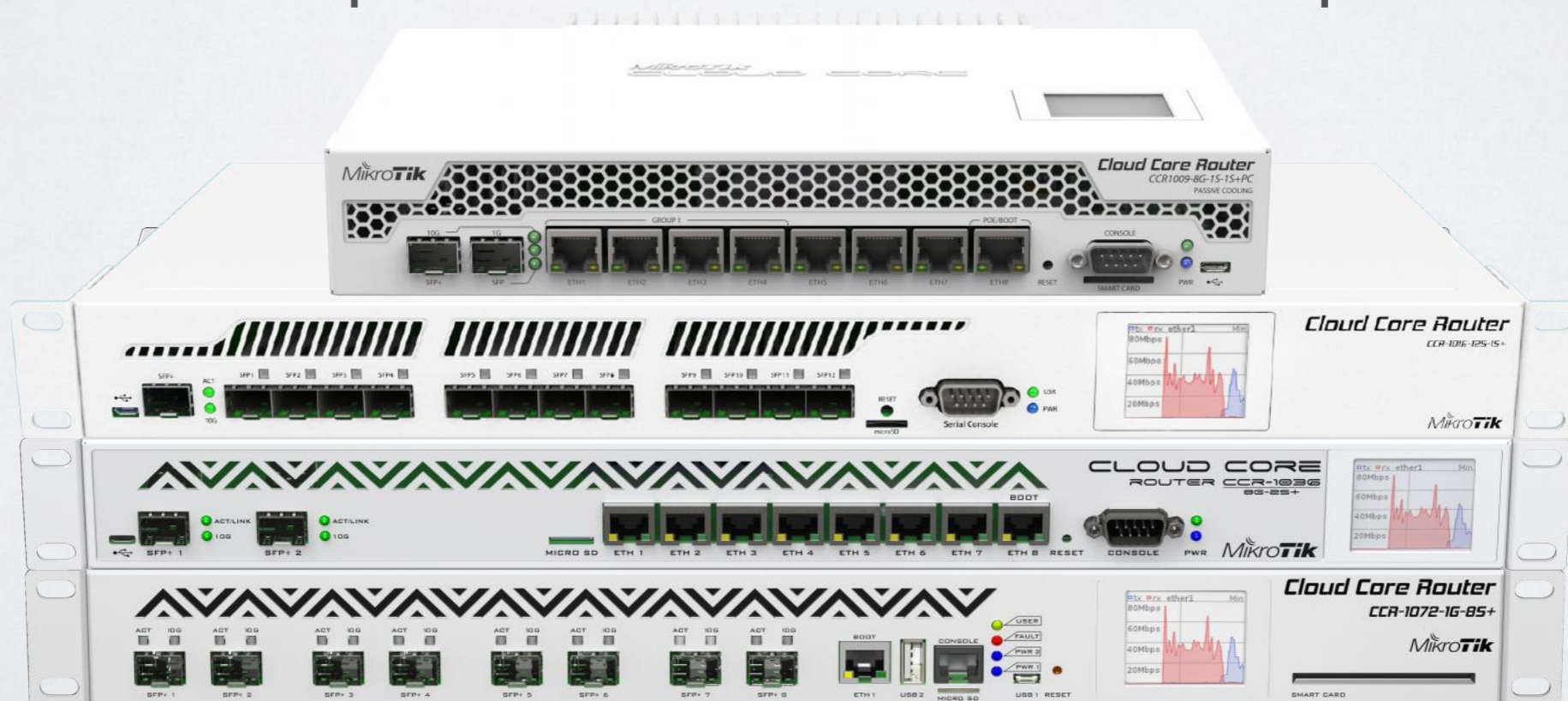
- Rackmount and desktop case
- 10 Ethernet ports
- 1 SFP (fiber optic)
- RB3011 - dual core ARM CPU





# CCR series

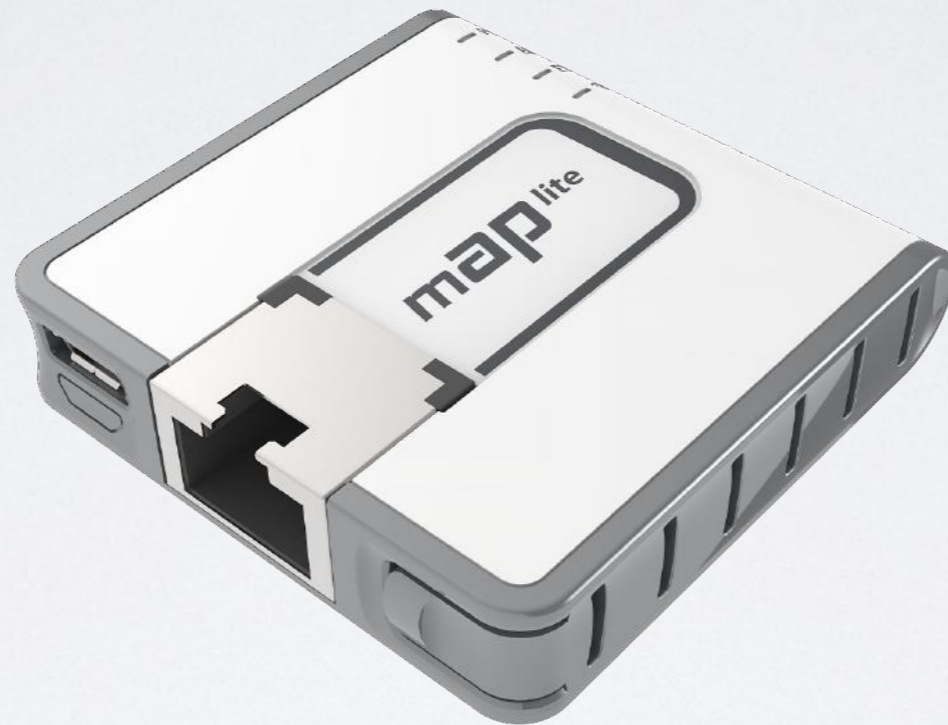
- 9, 16, 36 and 72 cores
- Extreme performance
- Hardware accelerated encryption
- 1Gbps Ethernet, SFP and SFP+ ports



# WIRELESS FOR HOME & OFFICE

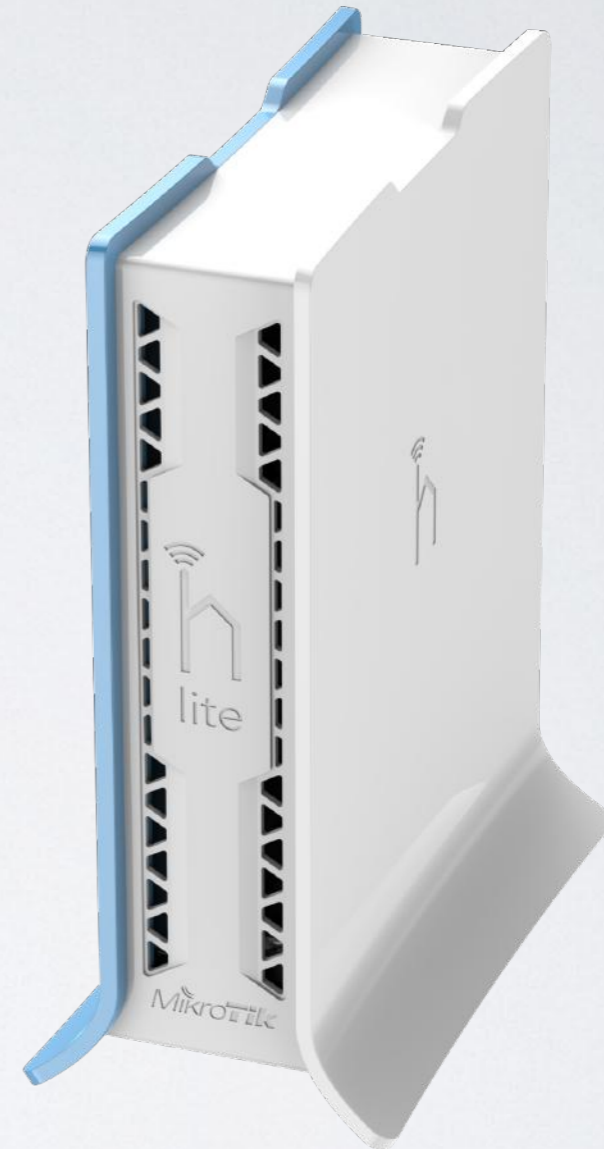


# mAP lite



Tiny size 2.4GHz dual chain access point with a 650MHz CPU, 64MB RAM and one Fast Ethernet

# hAP lite



Small, nice design and low cost device for home or office usage



# hAP ac



Dual band 2.4/5GHz AP, 802.11ac/a/b/g/n,  
5x1Gbps Ethernet, PoE-out on port 5, SFP and USB

# WIRELESS SYSTEMS



# NetMetal

- Waterproof metal enclosure
- Gigabit Ethernet, SFP
- 3 chains (antennas)
- 802.11ac technology
- 4 different models



# SXT

- Compact AP/CPE
- 24-90 degree antenna
- Different models available (2GHz, 5GHz, 802.11ac)
- Low cost
- Mid-range wireless links





# DynaDish

- Dual-chain 802.11ac
- 8 degree, 25dBi antenna
- Gigabit Ethernet
- Long range point-to-point links

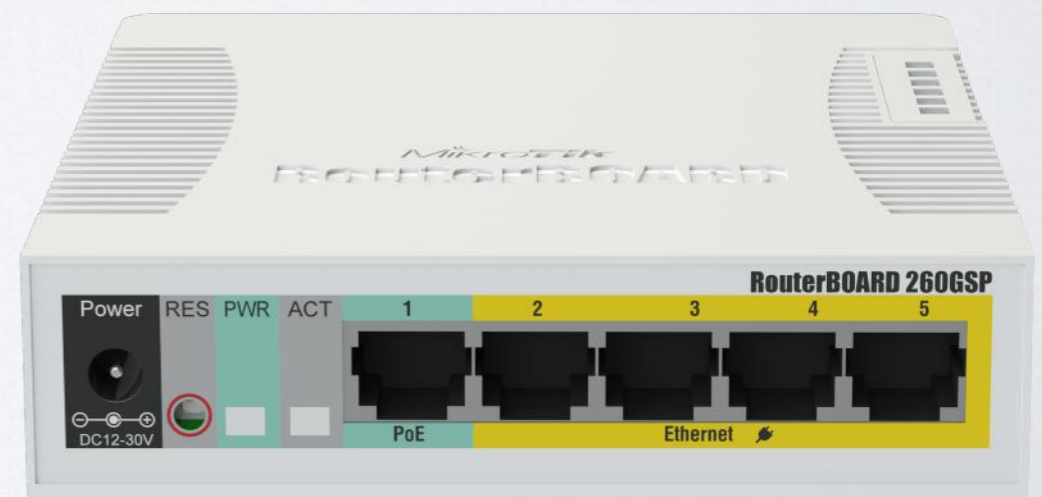


# SWITCHES



# RB260GSP

- Small switch
- Runs SwOS software
- Powers other devices over PoE



# CRS Series

- Layer 3 switches
- Runs Mikrotik RouterOS
- From 8 to 24 ethernet ports
- Gigabit Ethernet
- SFP/SFP+
- Wireless

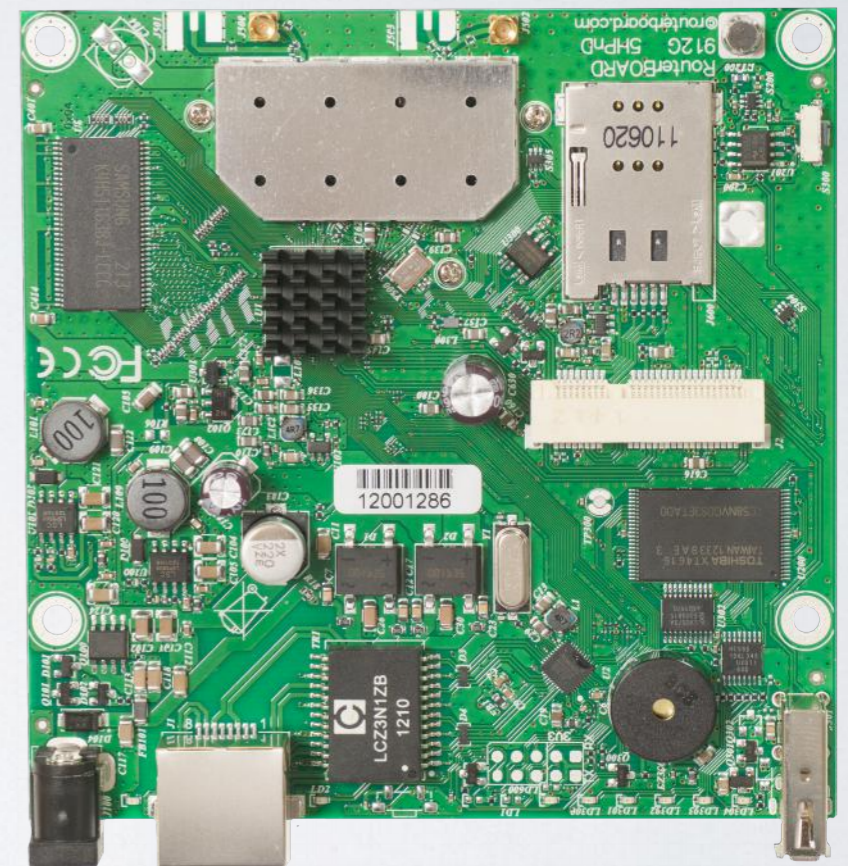




ROUTERBOARD

# RouterBOARD

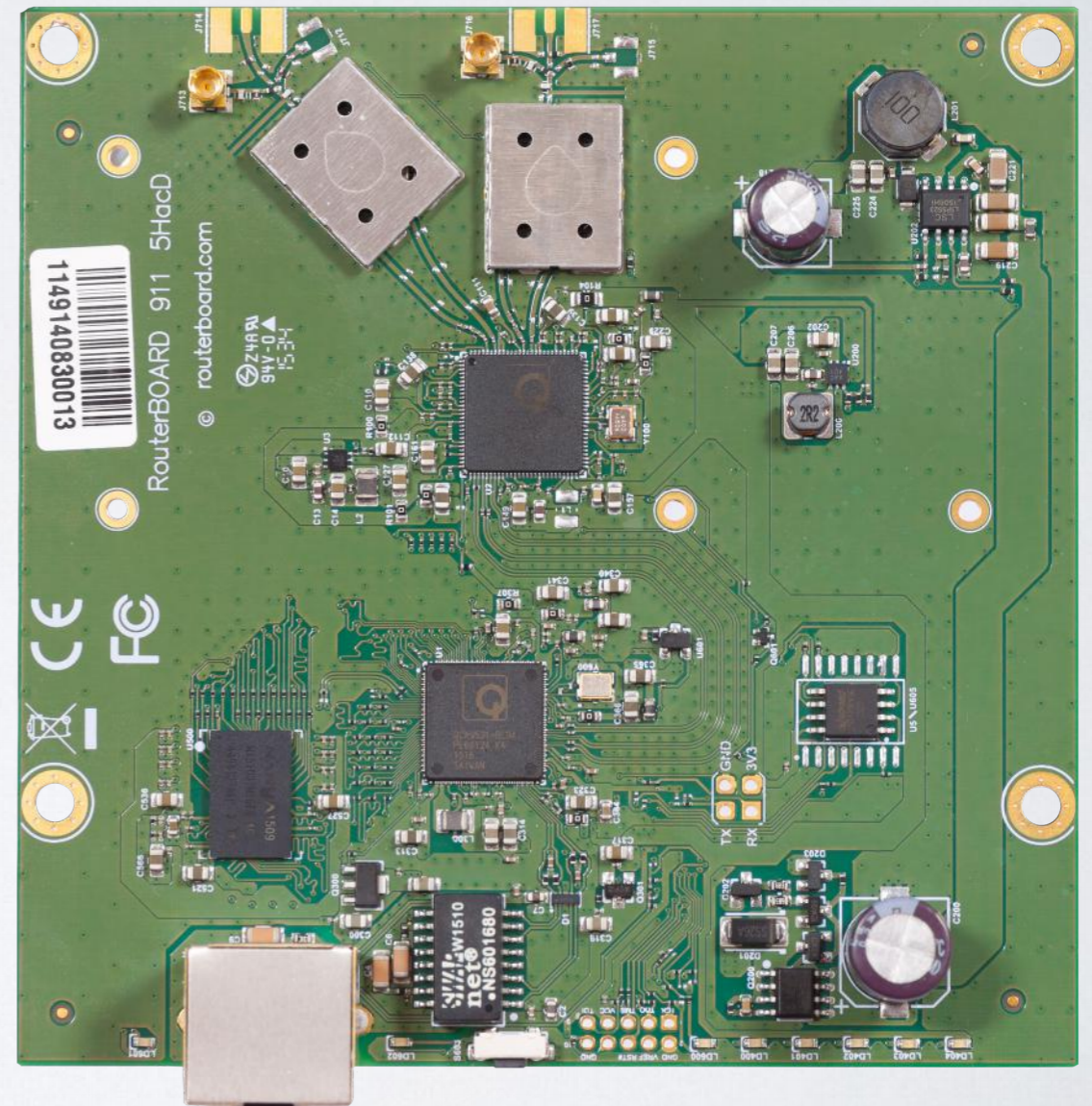
- Use custom case
- Upgrade or expand with ease
- Choose model based on ports, features and speed





# RB911 ac

- 802.11ac support
- 10/100 Mbit port
- Affordable cost



INTERFACES AND MORE



# SFP modules

- 1.25Gbps and 10Gbps
- Single, Multi modes
- Different distances
- GPON



# Wireless Cards

- 802.11 a/b/g/n/ac
- 2GHz, 5GHz
- miniPCI-e, miniPCI





# Antennas

- mANT30
- Parabolic dish
- Regular or precise alignment



# All Products

- Include free software upgrades for life
- Run the same RouterOS software
- For more info see [routerboard.com](http://routerboard.com)

\*Except RB260 series (SwOS)



# NEW PRODUCTS

# LHG 5

- 24.5 dBi antenna
- Antenna is built into wireless unit
- 802.11a/n dual chain
- Very affordable

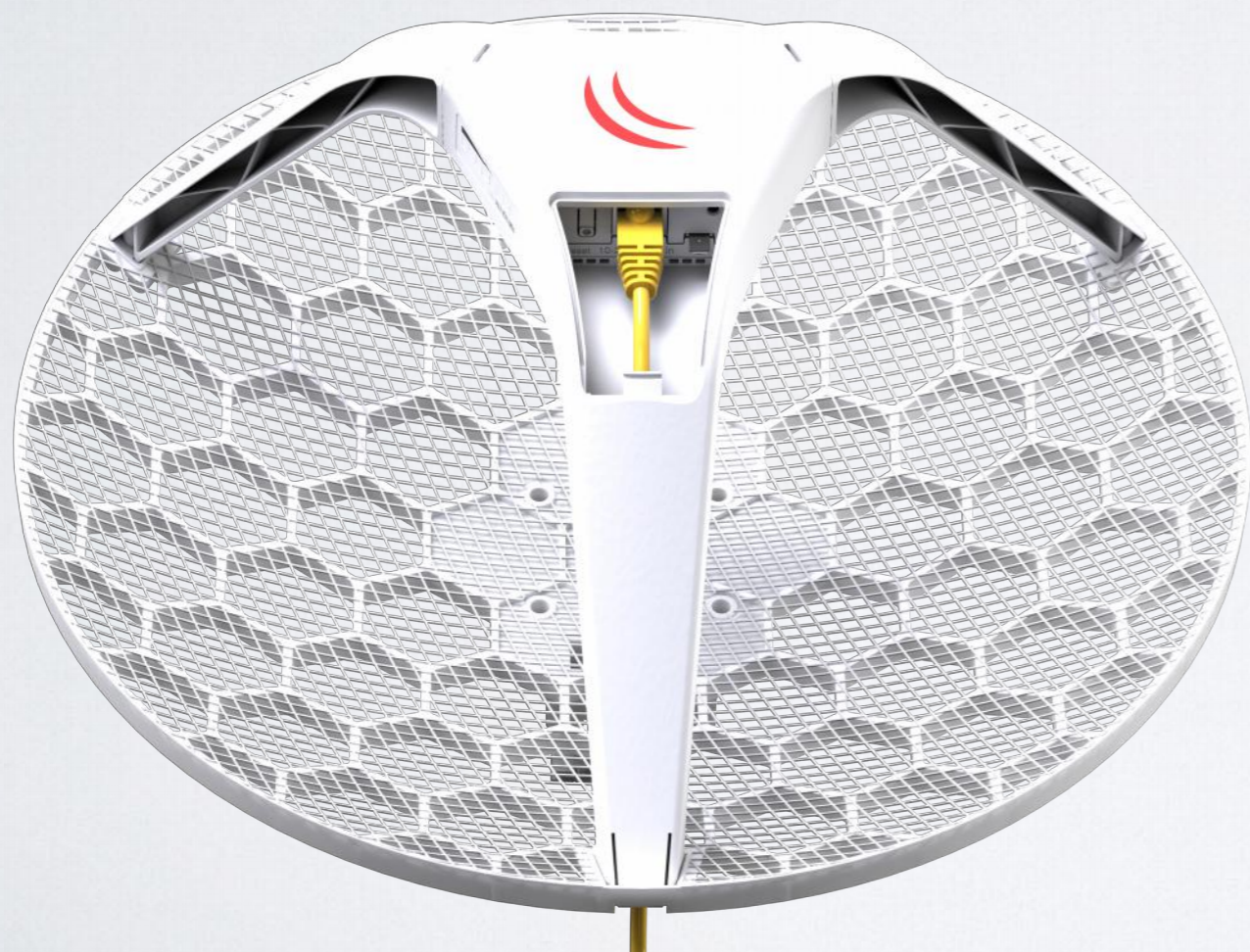


59\$



NOW

# LHG 5





NOW

# QuickMOUNT pro LHG

- Wall or pole mount adapter
- $\pm 70^\circ$  horizontal adjustment
- $\pm 30^\circ$  vertical adjustment
- Special plastic composite material - anvilNITE (TM)



9.5\$



# Groove 52 ac



- 802.11ac update for the popular Groove model
- Waterproof, rugged and ready to use.
- 802.11 b/g/n and 802.11 a/n/ac, Gigabit Ethernet

CPE 79\$ / AP 99\$

# Metal 52 ac

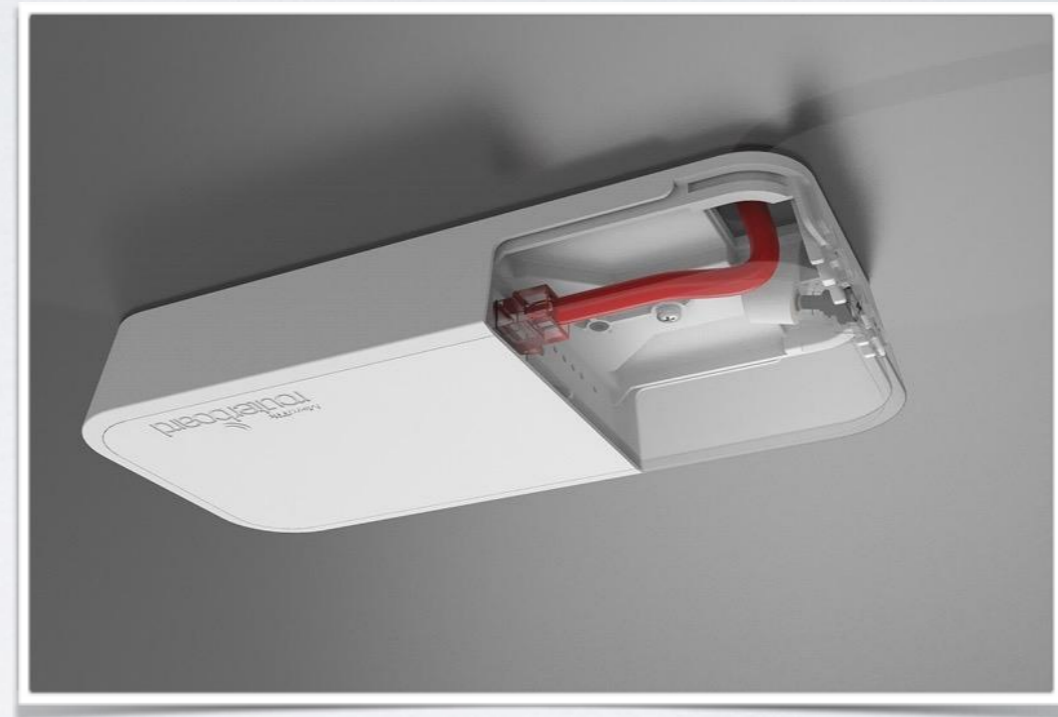


- 802.11ac update for the popular Metal model
- Higher output power
- Metallic case that works as a heatsink

119\$



# wAP ac



- Wall or ceiling mountable
- Use for hotel, office, etc.
- Gigabit and 802.11ac
- Dual band (concurrent 2.4GHz and 5GHz)

89\$

# hAP ac

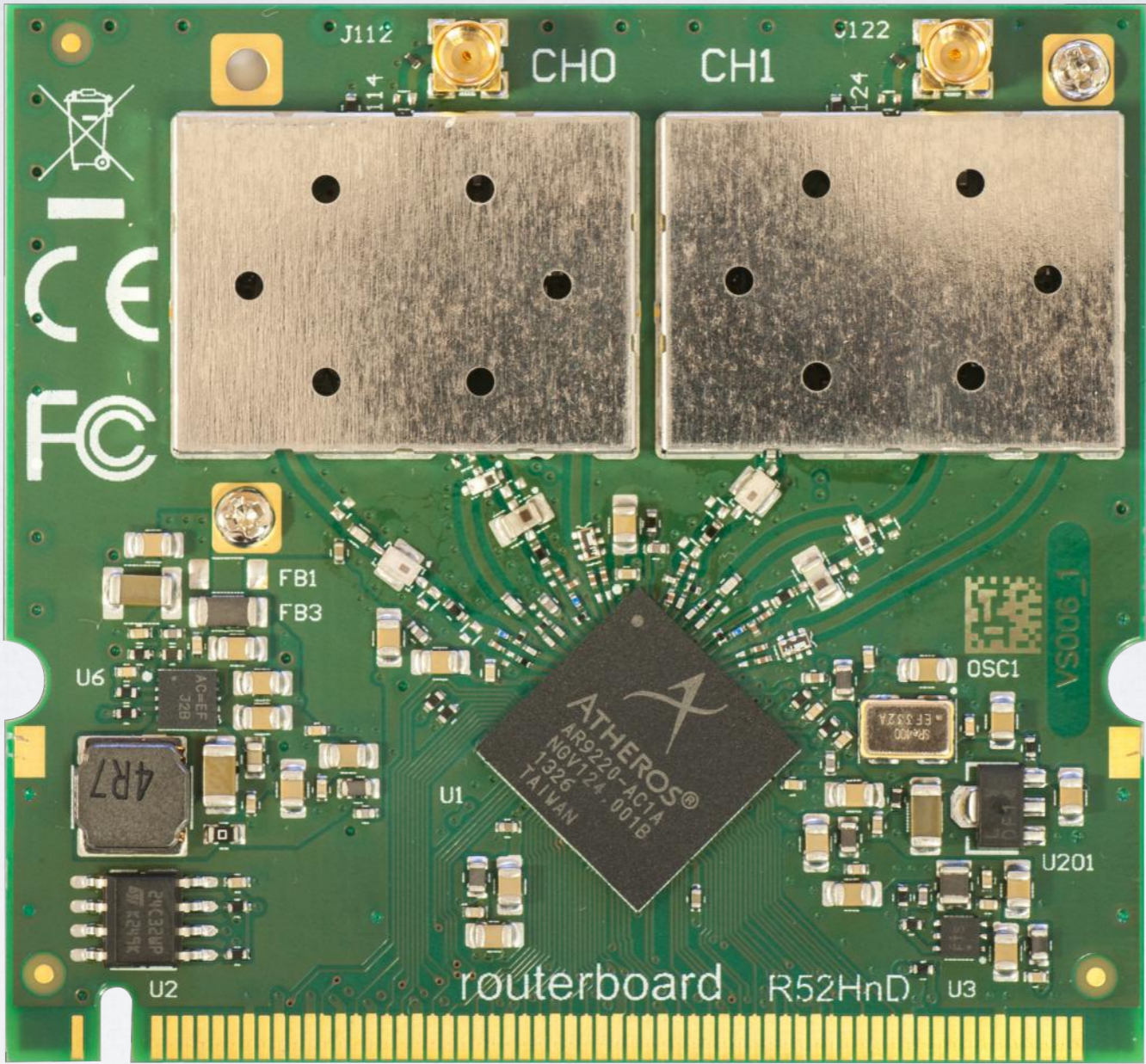
- Gigabit dual concurrent home AP
- 2.4GHz high power 3 chain 802.11n
- 5GHz high power 3 chain 802.11ac
- 5x1Gbps ports & 1 SFP cage
- 720MHz CPU
- PoE-out on port 5



129\$



# R52HnD

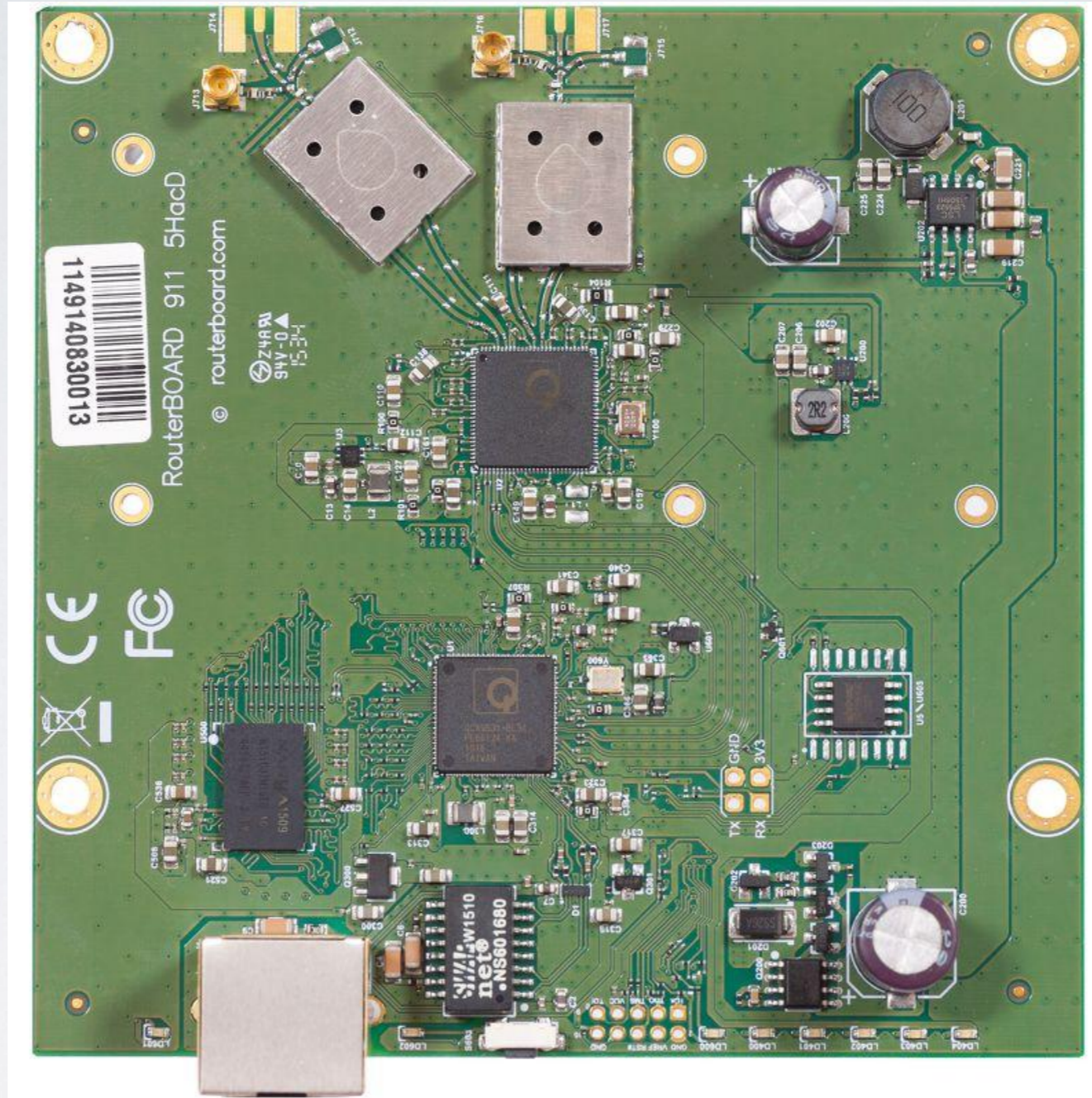


59\$

Tx-power 26 dBm, R52H replacement



# 911 Lite5 ac



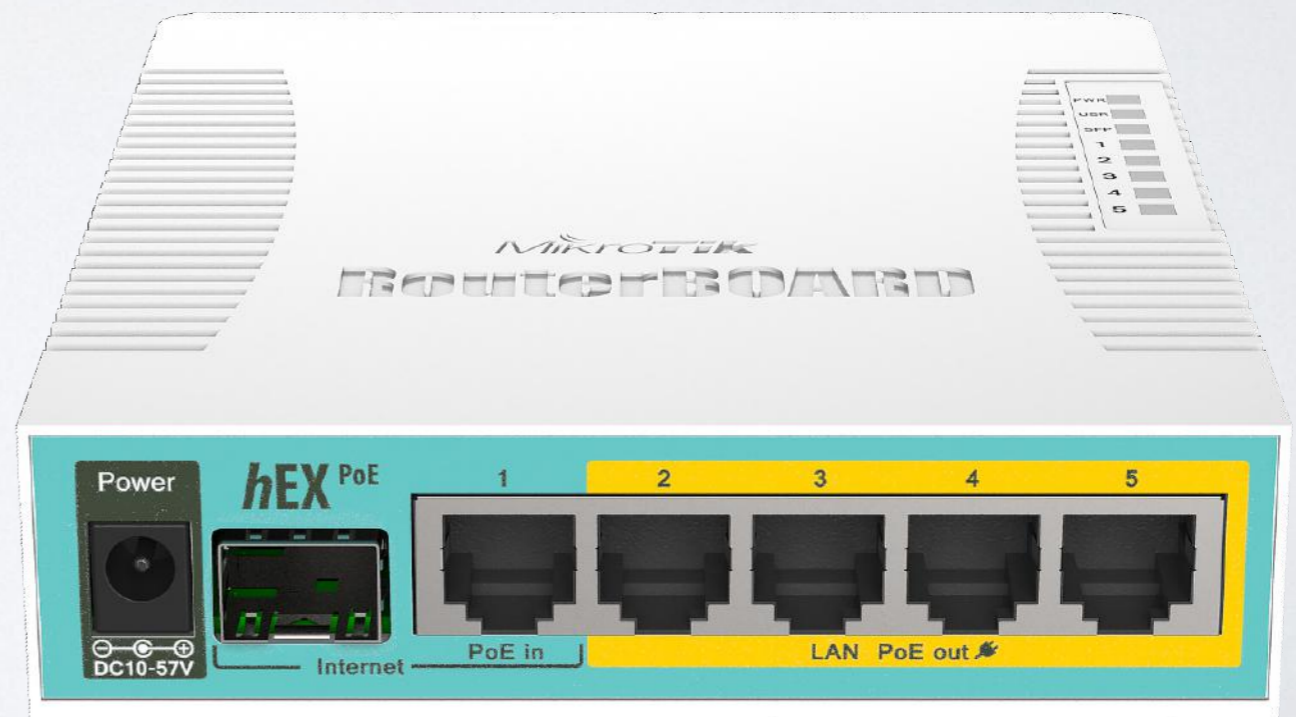
49\$

802.11ac update for extremely affordable board



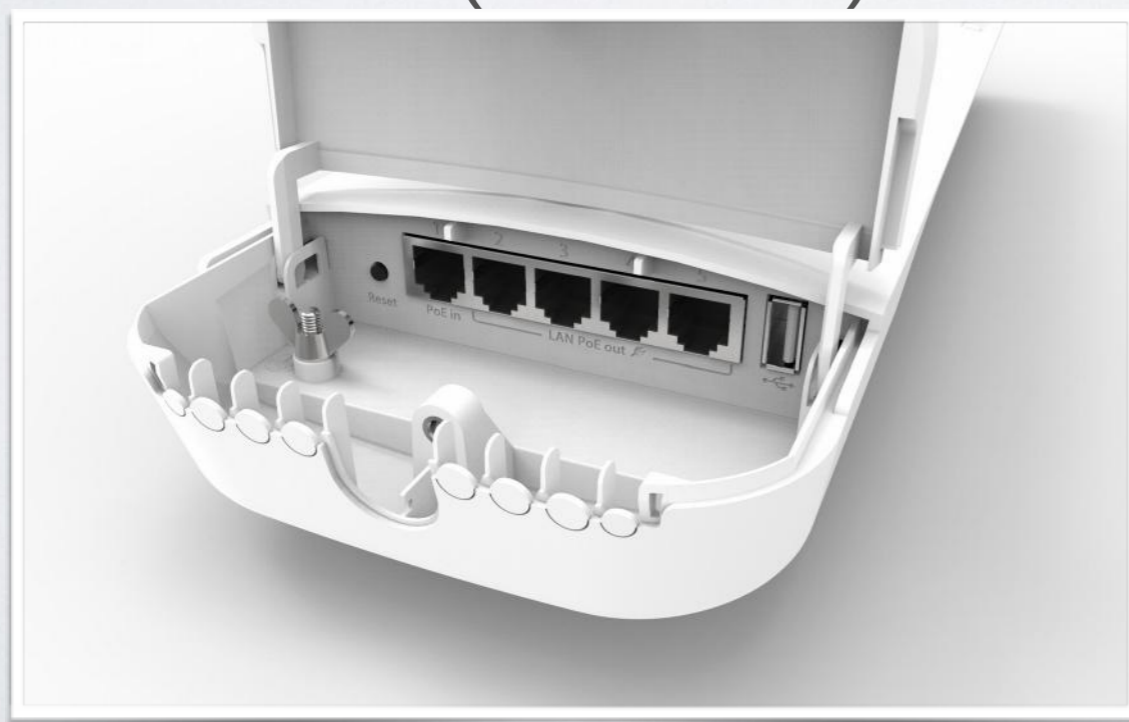
# hEX PoE

- Small Ethernet device
- Five 1Gbps ports
- Power over Ethernet out on ports 2-5



# OmniTIK 5 ac /PoE ac

- 802.11ac, 2 chains
- 5x1Gbit Ethernet ports
- 7.5 dBi
- PoE in
- \*PoE out (ether2-5)





# CHR

- RouterOS version tailored for running in virtual environments
- Runs on VMware Workstation and ESXi, VirtualBox, HyperV, KVM, XenServer, etc.
- Cloud services - Amazon, Azure and others

# CHR

- Firewall for your cloud services
- VPN server in the cloud
- The Dude monitoring server
- Simulate networks for learning or training
- And more...



# CHR

License	Speed limit	Price
Free	1Mbit	FREE
P1	1Gbit	\$45
P10	10Gbit	\$95
P-Unlimited	Unlimited	\$250

- 60 day trial available
- Purchased license can be transferred

# CHR

- For more info see the CHR page on our wiki:  
<http://wiki.mikrotik.com/wiki/Manual:CHR>
- Available on the download page:  
<http://mikrotik.com/download>



RouterOS v6.35 changelog **181** line

# Wireless in v6.35

- New wireless package '**wireless-rep**'
- Multiple simultaneous wireless modes on the same wireless interface
  - Client and AP
  - Repeater
  - Scan without disconnects
- Improved driver



# Need Help?

- Ask a local **distributor**
- Read the manual **wiki.mikrotik.com**
- Email **support@mikrotik.com**
- Hire a **consultant**
- Attend a training class or join an Academy class in a University

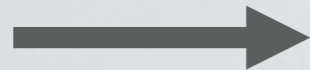


Possibilities and Benefits of  
Partnership Programs



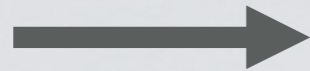
Knowledge

Consultant



Configures and helps

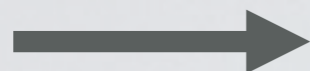
Training center



Certifies and advances

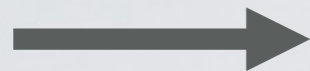
Products

Distributor

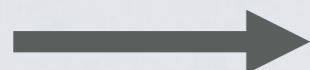


Offers products and services

Reseller



Buys from Distributor and resells



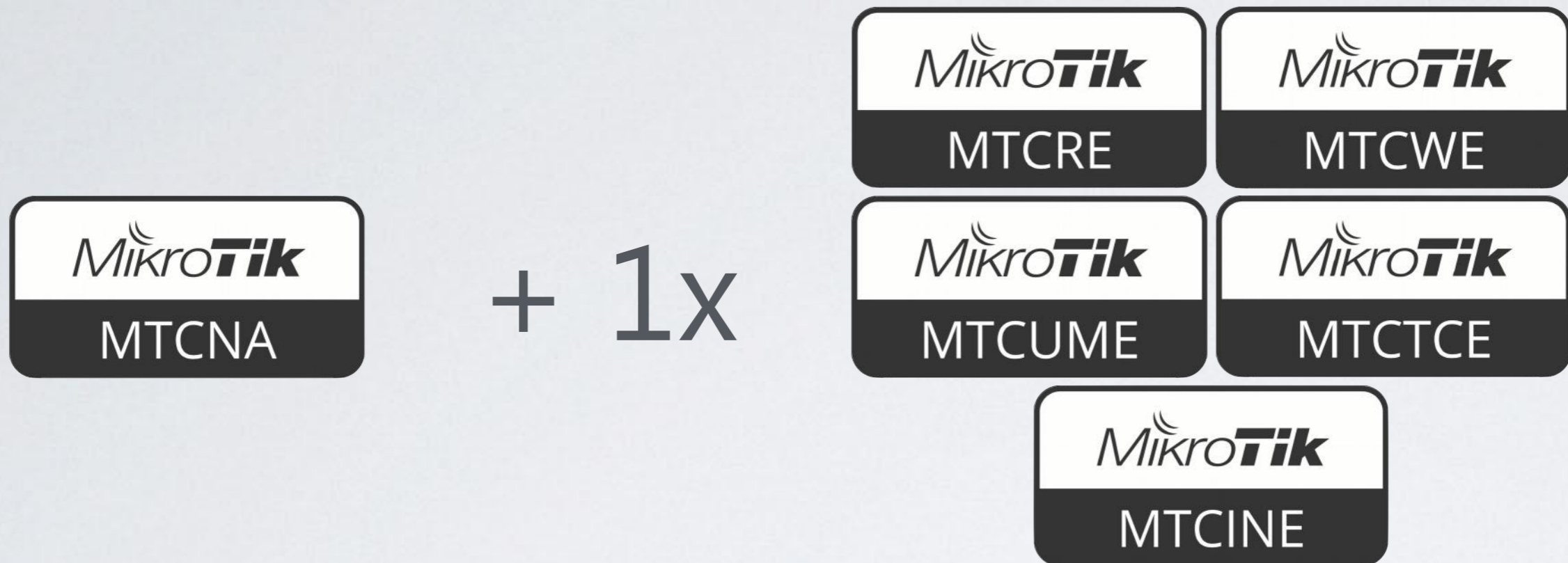
Accessories, integrators, software

# Who?

- Experienced network engineers
- Profound RouterOS and RouterBOARD knowledge



# How?



Result: 75%+

[sales@mikrotik.com](mailto:sales@mikrotik.com)

# Where?

The screenshot shows the MikroTik website's navigation menu. The 'support' link is highlighted with a red circle and a red arrow. Below it, the 'Consultants' link is also highlighted with a red circle. The main content area features a map titled 'List of MikroTik Certified Consultants' showing the number of consultants in various regions. The map includes the following data points:

Region	Number of Consultants
North America (USA/Canada)	39
South America (Brazil)	36
South America (Argentina)	11
South America (Chile)	2
South America (Peru)	2
South America (Colombia)	7
South America (Venezuela)	7
South America (Paraguay)	31
South America (Uruguay)	19
South America (Bolivia)	2
South America (Ecuador)	8
South America (Costa Rica)	2
South America (Panama)	2
South America (Cuba)	6
South America (Liberia)	6
South America (Nigeria)	12
South America (Kenya)	2

[mikrotik.com/consultants](http://mikrotik.com/consultants)



Consultant

+

MikroTik  
Train the Trainer

=

**MikroTik**  
TRAINING CENTER

# How?

- Get MTCNA + 1x certificate (75%)
- Pass **Train The Trainer** course
- Give 1 hour lecture
- Next Train The Trainer course in Dubai, UAE October 18-20



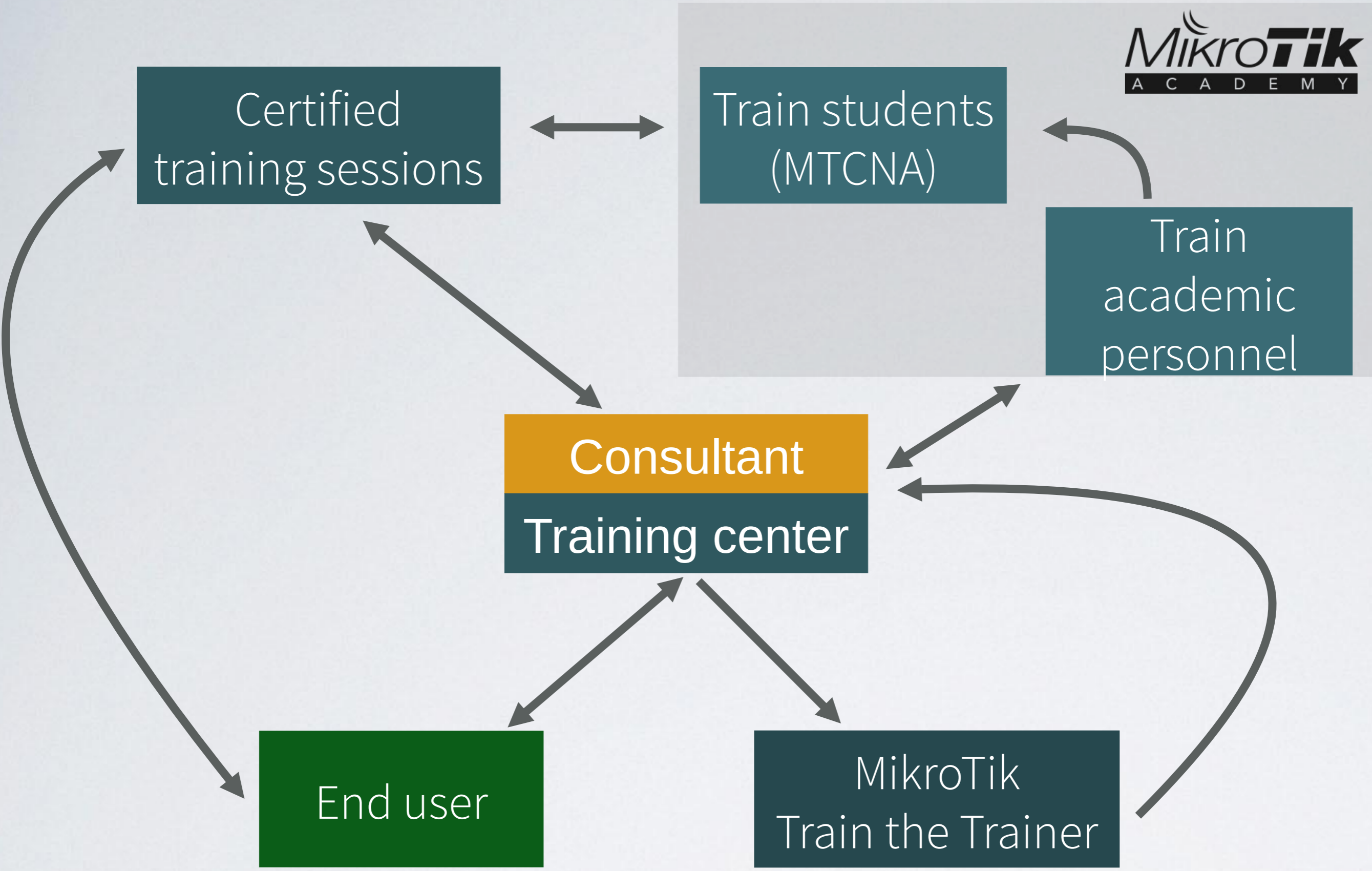
- Courses developed according official MikroTik training outline
- We offer certification tests
- Publish training schedule on our website

# MikroTik Courses

MTCNA	Network Associate
MTCRE	Routing Engineer
MTCWE	Wireless Engineer
MTCTCE	Traffic Control Engineer
MTCUME	User Management Engineer
MTCINE	Inter-networking Engineer

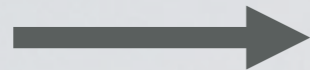
[mikrotik.com/training](https://mikrotik.com/training)





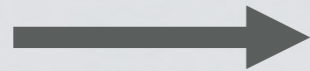
Knowledge

Consultant



Configures and helps

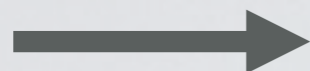
Training center



Certifies and advances

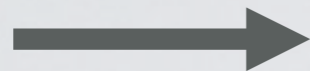
Products

Distributor

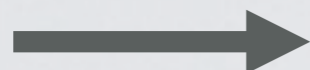


Offers products and services

Reseller



Buys from Distributor and resells



Accessories, integrators, software



1



At least 1 certificate

2



Web page

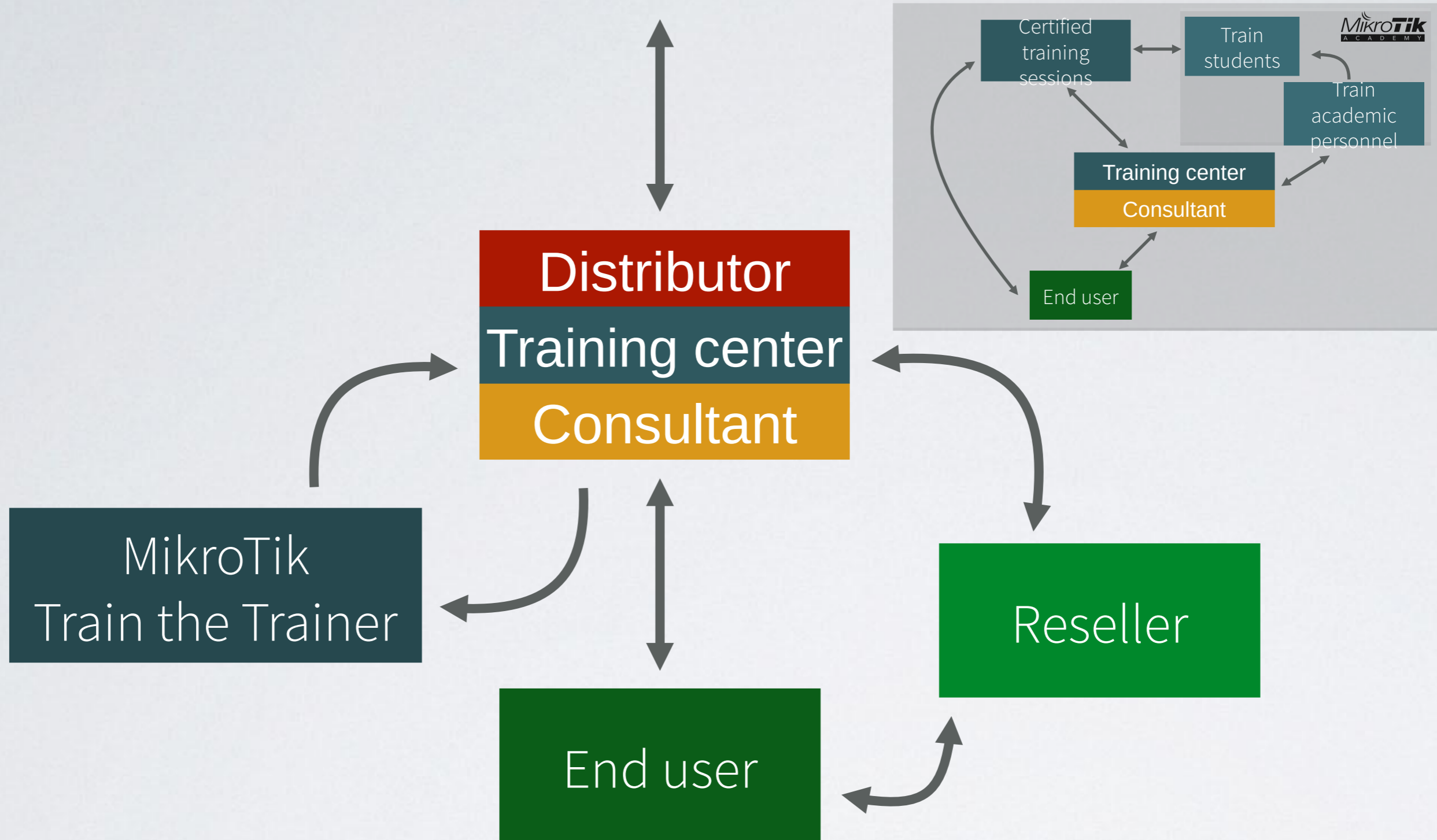
3



Purchase volumes

[sales@mikrotik.com](mailto:sales@mikrotik.com)

# MikroTik



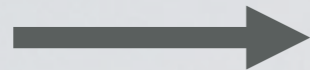


# Benefits

- The more you learn, the better you can help your customers
- Happier customers > better sales

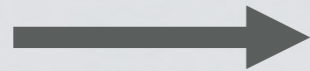
Knowledge

Consultant



Configures and helps

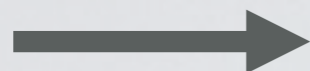
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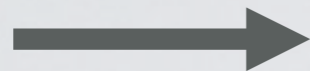
Products

Distributor

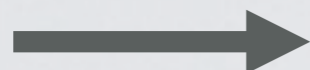


Offers products and services

Reseller



Buys from Distributor and resells



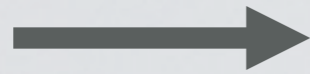
Accessories, integrators, software



Made for

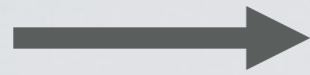
**MikroTik**

Accessories



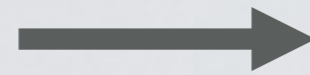
Accessories for MikroTik products

Integrators



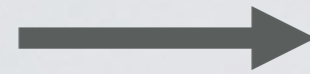
Integrated solutions

Software



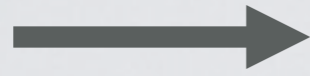
Software that works with RouterOS

CPE



More affordable integrated solutions

Books



Books about RouterOS

[mikrotik.com/mfm](http://mikrotik.com/mfm)



# Routers & Wireless

- home
- software
- hardware
- support
- downloads
- purchase
- training
- account

Main Buy About us **Made for Mikrotik** Our customers Jobs

## Made for Mikrotik

The Made for Mikrotik program consists of two parts: "Mikrotik certified Integrators" and "Mikrotik certified Accessories".

**MikroTik Certified Accessories** are made by Mikrotik approved companies, who make accessories specifically for MikroTik products. This includes RouterBOARD compatible cases, outdoor antennas and other products

**MikroTik Certified Integrators** are companies who make turnkey solutions based on Mikrotik RouterBOARD and RouterOS, their products include assembled CPE/AP devices, preinstalled Integrated antennas and Rackmount solutions assembled for and with RouterOS



[Click here to apply to the "MFM" program](#)

Below is a list of our 173 Certified Mikrotik Integrators and Accessory makers in Random order:

- Accessories
- Integrators
- Software
- CPE
- Textbooks

### Netkrom solution

<http://netkromsolution.com>

NetMedic is one product design to the hospital. Powered by MikroTik RouterOS NetMedic bundle with Monitor temperature, date and uptime of MikroTik. New Design Casing specific for Hospital.



Choice NetMedic for improving performance Your Network Hospital

### Pro-Cell Co., Ltd.

<http://www.antenna.com.tw/>

PRO-CELL is a professional antenna manufacturer in Taiwan. PRO-CELL product range includes an outdoor APA enclosure which can be combined with RouterBoards inside and antennas both inside or outside.



[mikrotik.com/mfm](http://mikrotik.com/mfm)



# How To Apply?

- Description
- Picture
- Homepage

[sales@mikrotik.com](mailto:sales@mikrotik.com)

MIKROTIK

A C A D E M Y





**MikroTik Academies** - educational institutions such as universities, technical schools, colleges, vocational schools, and other educational institutions offering **semester time based Internet networking courses** for their academic students using MikroTik RouterOS as a learning tool



- Certification program for educational institutions
- Course is based on MTCNA
- Taught by Academy trainers
- Includes free MTCNA exam



# MTCNA Covers...

- **RouterOS introduction** (setup, upgrade, managing, TCP/IP basics)
- **Firewall** (principles, filters, connection tracking, NAT)
- **QoS** (simple queue, traffic prioritisation, PCQ, monitoring)
- **Network management** (ARP, DHCP, HotSpot, Proxy)
- **Wireless** (802a/b/g/n concepts, security, protocols)
- **Bridging** (concepts, WDS)
- **Routing** (overview, static routing, OSPF)
- **Tunnels** (PPPoE, PPP, PPTP (L2TP))

# MikroTik Offers

- Training outline
- MTCNA course materials
- 20x RouterBOARDS
- MTCNA certificates & RouterOS level4 licenses to students
- Academy trainer shirts

# HowTo Become Academy?

1. Fill out application - [mikrotikacademy.com](https://mikrotikacademy.com)
2. Sign MikroTik Academy agreement
3. Attend preparatory training
4. Pass MTCNA + 1x engeneer level certificate test (result 75% +)



# MikroTik Offers

- 75% compensation to Training Centers for training Academy staff

# MikroTik Academy



[MikroTik Academy Application Form \(Web\) \(PDF\)](#)

## Contents:

### Latin America

- Argentina
- Bolivia
- Brazil
- Ecuador
- Peru

### Africa

- Benin
- Nigeria

### Europe

- Armenia
- Belarus
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Czech Republic
- Estonia
- Georgia
- Hungary
- Italy
- Latvia
- Lithuania
- Malta
- Moldova

## Latin America

### **Mario Clep/ MKE Solutions, Coordinator**

Rio Cuarto, **Argentina**  
Tel: + 54 0358 154015778  
Write e-mail

### **Ing. José Alfredo García D. / Writel Bolivia S.R.L, Coordinator**

Santa Cruz de la Sierra, **Bolivia**  
Tel: 591-3596671(PBX) / 591-71092870 (Cel)  
Write e-mail

### **Guilherme Ramires, Alive Solutions, Coordinator**

João Pessoa/PB, Brazil, **Brazil**  
Tel: +55 (83) 9 9119-0832  
Write e-mail

### **Mauro Escalante, MikroTik Xperts , Coordinator**

Guayaquil, **Ecuador**  
Tel: 593-4-600-85-90 (PBX) / 593-9-9535-2132 (Cel)  
Write e-mail

### **Daniel Chacon M, TodoISP Networking Academy, Coordinator**

Quito, **Ecuador**  
Tel: +593-2-3830008/ +593-9-985612599  
Write e-mail

[mikrotikacademy.com](http://mikrotikacademy.com)  
[training@mikrotik.com](mailto:training@mikrotik.com)



- 200+ MikroTik Academies around the world
- 350+ Academy trainers



MIKROTIK

A C A D E M Y

[mikrotikacademy.com](http://mikrotikacademy.com)

# After the MUM

- Presentation slides - [mum.mikrotik.com](http://mum.mikrotik.com)
- Videos – [youtube.com/mikrotik](http://youtube.com/mikrotik)
- License will be emailed

The logo for MikroTik, featuring the word "MikroTik" in a stylized, italicized font. The "i" in "Mikro" has a unique graphic element above it consisting of three curved lines. The "T" in "Tik" is bold and blocky, with a horizontal bar across its top. The "i" in "Tik" is also bold and blocky, with a dot above it.

*MikroTik*