

The MicroTik logo is centered in a white dashed-line box. It features the word "MikroTik" in a bold, black, sans-serif font. The "i" in "Mikro" has a small black arc above it. The "T" in "Tik" is stylized with a horizontal bar. The logo is flanked by two grey circles on a horizontal dotted line.

MikroTik

硬件，軟件，RouterOS功能性介紹



Soragan Ong (郭)

MikroTik Certified Trainer
MTCNA, MTCRE, MTCWE, MTCTCE
MTCUME, MTCINE, MTCIPv6E, MTCSE
MTCEWE

如何聯繫我:



Telegram
@sguox



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Soragan 是 MikroTik 認證培訓師和任命的學院協調員. 他於1999年通過幫助一家網吧開始了他的電腦網絡之旅, 然後建立了鄰居無線網絡以進行Internet共享.

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過去的MUM演講

MikroTik User Meeting

2015 Japan MUM | Load Balancing

<https://youtu.be/CynvwmVLxco>

2019 Myanmar MUM | Exploiting 802.11

<https://youtu.be/yvaUG3PtFAM>

2016 Philippines MUM | 防火牆

<https://youtu.be/kEkP5dupdPI>

2021/2022 Taiwan MUM ???

希望會在新冠肺炎之後舉辦

2019 Cambodia MUM | Basic RouterOS

Monitoring

<https://youtu.be/qMdCE1P1Lzo>

26 March 2021 | 台中MikroTik使用者群組活動

Presentation? Workshop? Product discount? Training?

交流討論群



WHY Mikrotik ?

- ✓ 超過二十四年
- ✓ 全球超過十七萬經過認證的工程師
- ✓ 百萬台RouterOS遍布全球
- ✓ CP高!!!





MikroTik

MikroTik

成立於一九九六



地点

里加, 拉脫維亞



網址

mikrotik.com wiki.mikrotik.com
routerboard.com designs.mikrotik.com
mum.mikrotik.com



辦公室

Brivibas gatve 214i
Riga, LV-1039
LATVIA





路由器軟件和硬件開發商, 制造商, 提供最用戶友好的運營商級路由和网络管理解決方案

MikroTik 的產品在全球範圍內構建數據網絡基礎結構。用戶包裹互聯網服務提供商, 跨國企業, 個人私用等等。

MikroTik 的使命是使現有的互聯網技術更快, 更強大, 並且對更廣泛的用戶可用。



MikroTik

自一九九五年以來就積極參與無線互聯網服務

成立於一九九六年

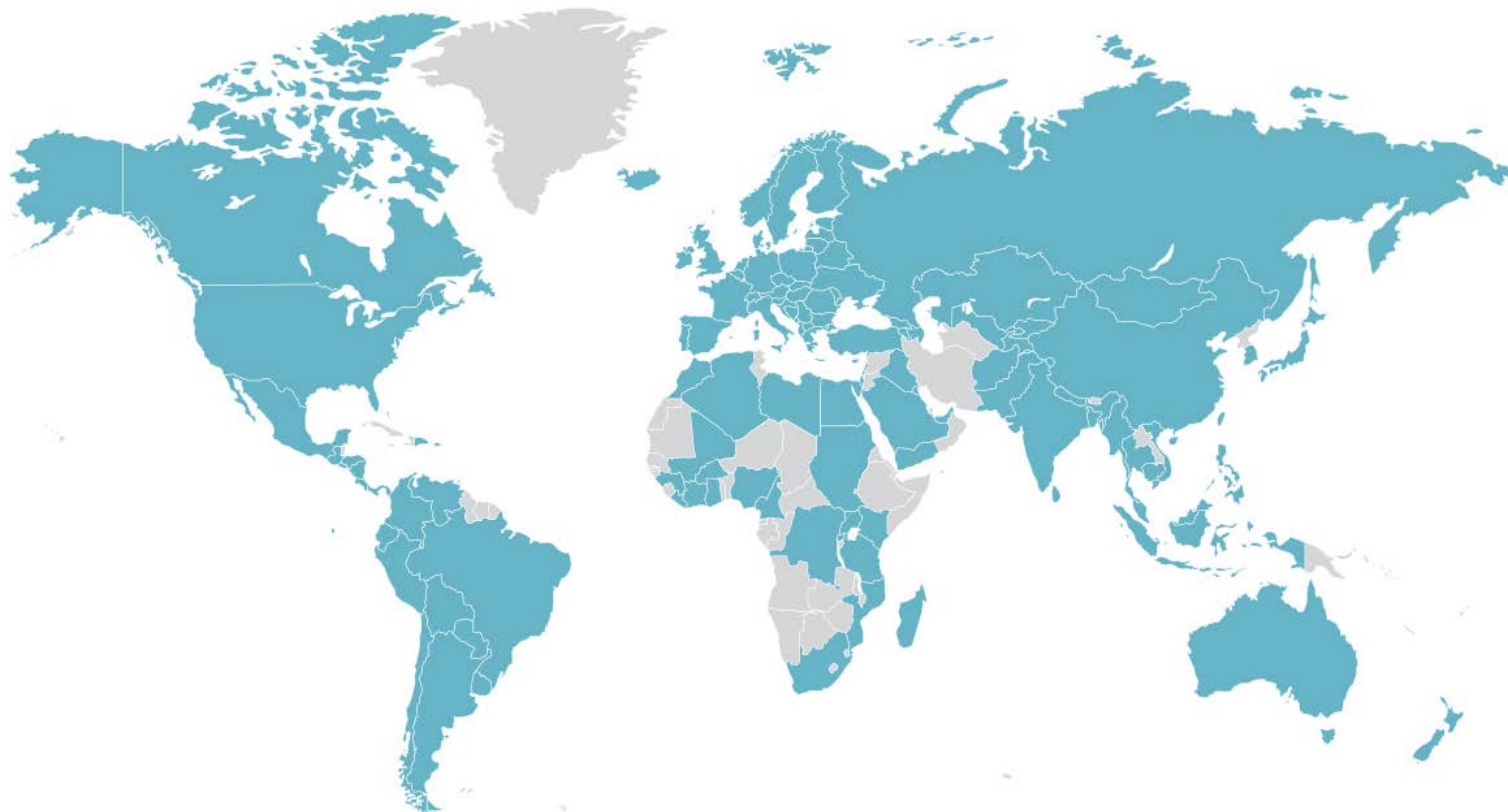
在全球的無線 ISP 項目中使用

自1997年以來為基於 Intel 的路由解決方案開發自己的軟件

自二零零二年以來開發自己的硬件

產品分銷

超過145個國家/地區的500多家分銷商和轉售商在銷售和支持MikroTik解決方案





MikroTik User Meeting (MUM) 用戶會議

一個關於 MikroTik RouterOS 軟件和 RouterBOARD 硬件的會議

提問，聽演講，與專家交談，以及觀看MikroTik和用戶本身有趣的技術演示

到現在為止超過兩百二十個MikroTik用戶會議. 最大的活動有三千多人參加.

<https://mum.mikrotik.com>

MikroTik User Meeting

Conference. Exhibition. Workshop.

Brazil

Foz do Iguaçu, November 28-29,
2019

Bolivia

Santa Cruz de la Sierra,
December 3, 2019

Guatemala

Guatemala City, January 17,
2020

Honduras

San Pedro Sula, January 20, 2020

South Africa

Johannesburg, Feb
7, 2020

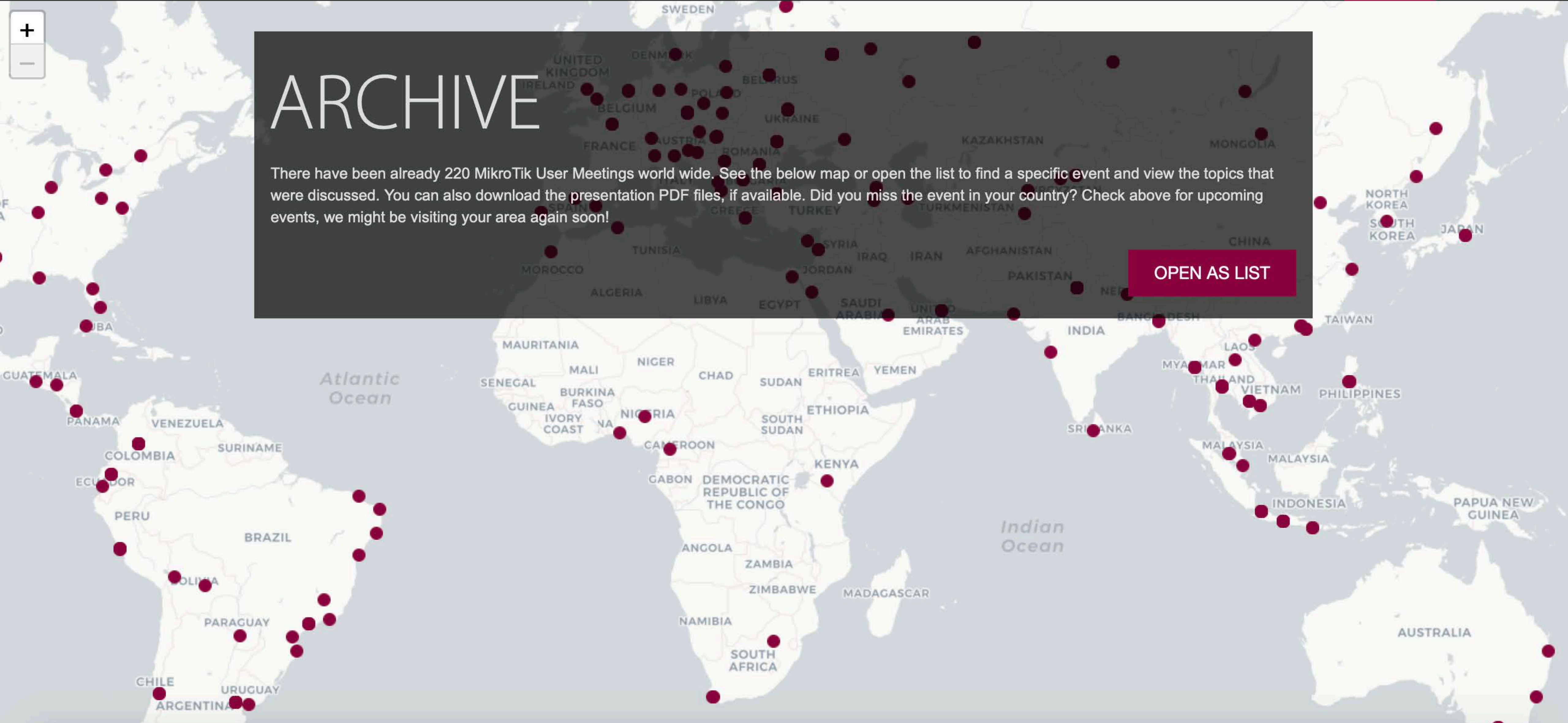
EUROPE

Prague, Mar 26-27,
2020

ARCHIVE

There have been already 220 MikroTik User Meetings world wide. See the below map or open the list to find a specific event and view the topics that were discussed. You can also download the presentation PDF files, if available. Did you miss the event in your country? Check above for upcoming events, we might be visiting your area again soon!

[OPEN AS LIST](#)





MikroTik Academy 學院

適用於大學，技術學校，學院，職業學校和其他教育機構等教育機構的計劃。

已經有超過六百多個學院和超過一千名學院培訓師加入了這個方案。

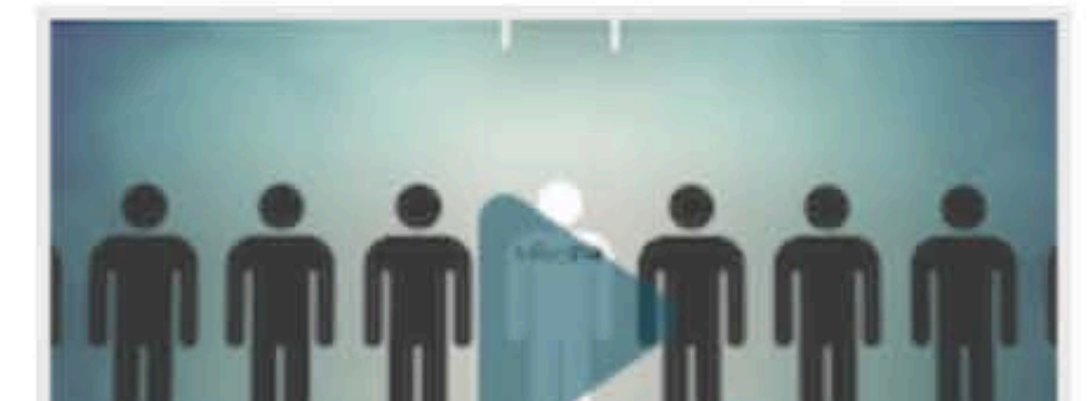
Training

[Schedule](#) [About](#) [Training centers & trainers](#) [Academies](#) [Train the Trainer](#) [Certificate search](#) [Archive](#)


MikroTik Academy

MikroTik is expanding RouterOS learning possibilities by launching the MikroTik Academy Program - download [brochure in English](#), [folleto en Español](#).

The MikroTik Academy Program is for educational institutions such as universities, technical schools,



MikroTik Certification Programme

Current Programme



Network Associate



Internet Protocol v6



Routing



Inter-Networking Engineer



Wireless



Security



User Management



Traffic Control

MikroTik 顧問

<https://mikrotik.com/consultants/>



全球被認證的顧問

超過十三萬經過培訓和認證的網絡工程師



要求

至少有一張工程師證書



Support

[General](#) [Forum](#) [Consultants](#) [RMA](#)

Latin America +

Africa +

Asia -

- Afghanistan
- Bangladesh
- Cambodia
- China
- Hong Kong
- India
- Indonesia
- Iraq
- Kazakhstan
- Kyrgyzstan
- Laos
- Lebanon
- Malaysia
- Mongolia
- Myanmar
- Oman
- Pakistan

- Saudi Arabia
- Singapore
- Taiwan
- Thailand



Soragan Ong

MUM

Presenter

MTCRE, MTCWE, MTCTCE, MTCUME, MTCIPv6E, MTCINE, MTCSE, MTCEWE
 Taipei, Taiwan

Expertise: Static, Dynamic and Inter-Networking Routing, MPLS, Traffic Engineering, Hotspot System (AAA/RADIUS), Firewall, VPN/Tunneling, QoS, Proxy, Load Balancing, High Availability, VLAN, MPLS, VPLS, VoIP, Virtualization. Consulting, Implementation, Troubleshooting, Monitoring and Maintenance. On-Site and Remote services

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 Taichung, Taiwan

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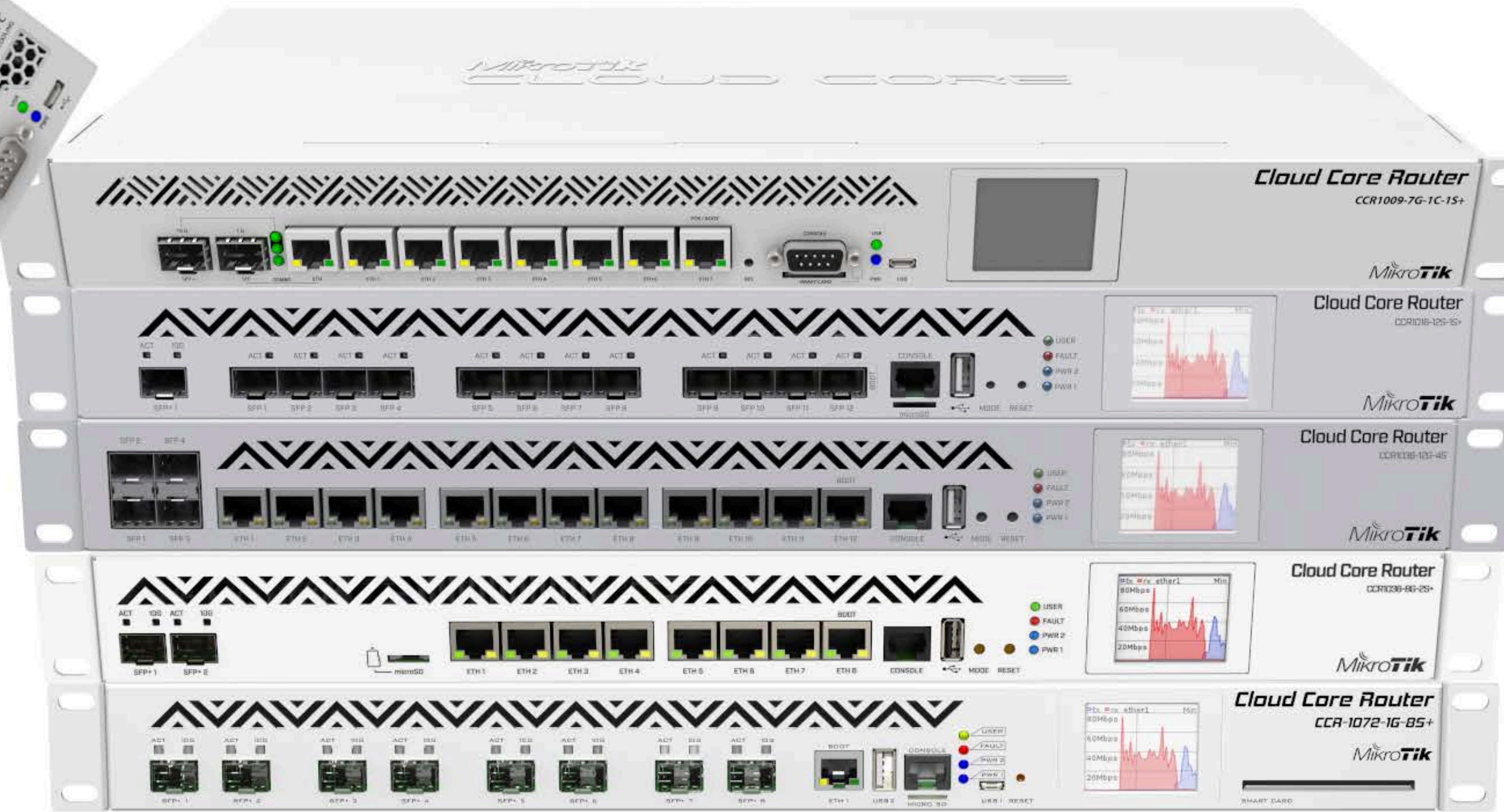
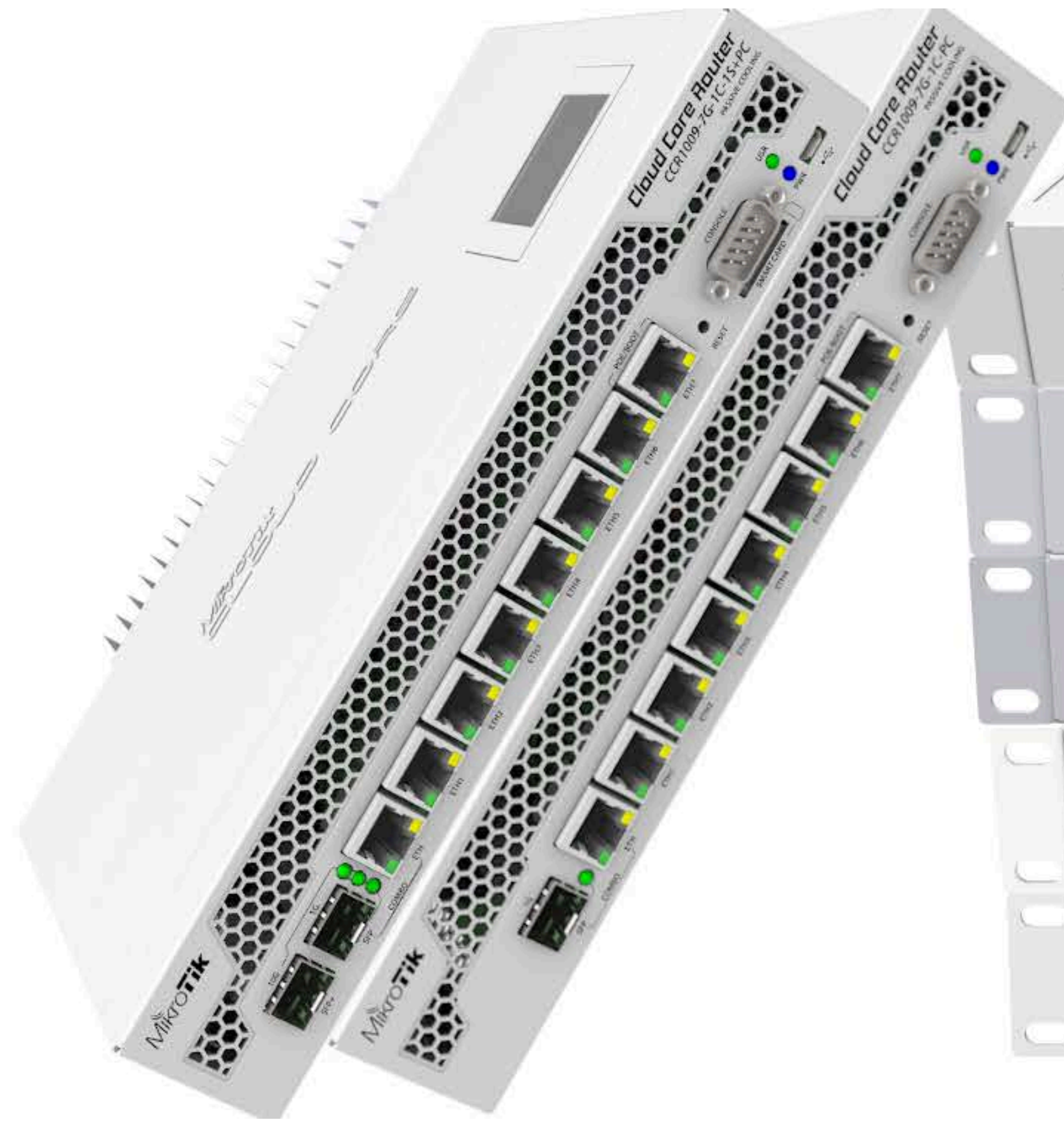
Kuo,feng Wei

MTCIPv6E
 Toufen City, Taiwan

0911121211 [Email](#) +886911121211

The Mikrotik logo, consisting of the word 'Mikrotik' in a white, italicized sans-serif font. The 'i' in 'Mikro' has a white dot, and the 'i' in 'tik' has a white dot. The background is a world map with a grid of latitude and longitude lines, transitioning from red on the left to purple on the right.

Cloud Core Router 10xx



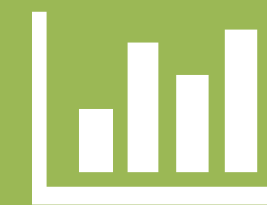
Multi-Core CPU

From 9-core to 72-core, clocked at 1-1.2GHz



Network Interface

Supporting 1G up to 10G with RJ45, SFP and SFP+



Affordable Price

A fraction cost of other brands hardware with similar performance



No Extra License Cost

License included in hardware purchase. No extra license based on feature

hEX series

The hEX series of devices are small form factor Ethernet routers with neat plastic design enclosures. They have a total of five ports.



hEX lite

A small, but powerful five port Ethernet router in a nice plastic case.

- 850 MHz CPU, 64 MB RAM
- Compact size

mt.lv/p/56



hEX PoE lite

This model supports PoE output on it's Ethernet ports, so you can power other devices.

- 5x 10/100 Mbps Ethernet ports
- 650 MHz CPU, 64 MB RAM
- Ethernet ports 2-5 can power other PoE capable devices

mt.lv/p/267

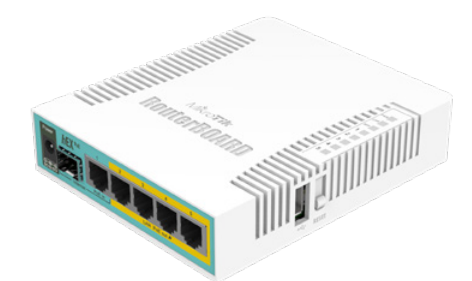


hEX

The hEX is a small and powerfull router with Gigabit Ethernet, IPsec acceleration and more.

- 5 Gigabit Ethernet ports
- Dual core 880 MHz CPU, 256 MB RAM
- IPsec hardware encryption (~470 Mbps) support
- Support for The Dude server package
- microSD slot and USB

mt.lv/p/262



hEX PoE

This model also has PoE output capability, but includes Gigabit Ethernet ports and an SFP cage.

- 5 Gigabit Ethernet ports
- SFP port for 1.25 Gigabit connectivity
- Ethernet ports 2-5 can power other PoE capable devices
- 800 MHz CPU, 128 MB RAM

mt.lv/p/295

hEX S

hEX S is a six port wired Gigabit router for locations where wireless connectivity is not required. Compared to the hEX, the hEX S also features an SFP port and PoE output on the last port.



- Dual Core 880 MHz CPU
- 256 MB RAM
- 1.25Gbit/s SFP cage
- USB 2.0 and microSD slot
- 12 V- 57 V input support by PoE or power jack
- 802.3at/af support
- IPsec hardware encryption (~470 Mbps)
- Dude Server package support

mt.lv/p/364

PowerBox series

The PowerBox series of devices are Ethernet routers in outdoor enclosures, ready to be mounted in any weather conditions. They are capable to power MikroTik routers and other supported devices through PoE (Power over Ethernet).



PowerBox

The basic model is good for 10/100 Mbit devices and lower bandwidth requirements.

- 5x 10/100 Mbps Ethernet ports
- 650 MHz CPU, 64 MB RAM

mt.lv/p/251



PowerBox Pro

The professional model adds Gigabit ports and a more capable CPU.

- 5 Gigabit Ethernet ports
- SFP port for 1.25 Gigabit connectivity
- 800 MHz CPU, 128 MB RAM

mt.lv/p/313

RB2011 series



RB2011iL-IN

mt.lv/p/142

The RB2011 lite model comes in a desktop case and features a PoE out port, just like all the other models.

- 600 MHz CPU, 64 MB RAM
- Desktop case



RB2011iL-RM

mt.lv/p/161

The RM model is similar, but comes in a larger, rackmountable enclosure.

- 600 MHz CPU, 64 MB RAM
- Rackmount case



RB2011iLS-IN

mt.lv/p/153

This device includes an SFP port for fiber and copper modules. See the Accessories chapter for recommended modules.

- SFP port for 1.25 Gigabit connectivity
- 600 MHz CPU, 64 MB RAM
- Desktop case



RB2011UiAS-IN

mt.lv/p/157

The U models include more RAM and a USB port.

- SFP port for 1.25 Gigabit connectivity
- 600 MHz CPU, 128 MB RAM
- LCD display and USB
- Desktop case



RB2011UiAS-RM

mt.lv/p/162

Similar to the above model, but comes in a rackmountable enclosure.

- SFP port for 1.25 Gigabit connectivity
- 600 MHz CPU, 128 MB RAM
- LCD display and USB
- Rackmount case

RB3011UiAS-RM

mt.lv/p/271



The RB3011 is a multi port device, our first to be running an ARM architecture CPU for higher performance than ever before.

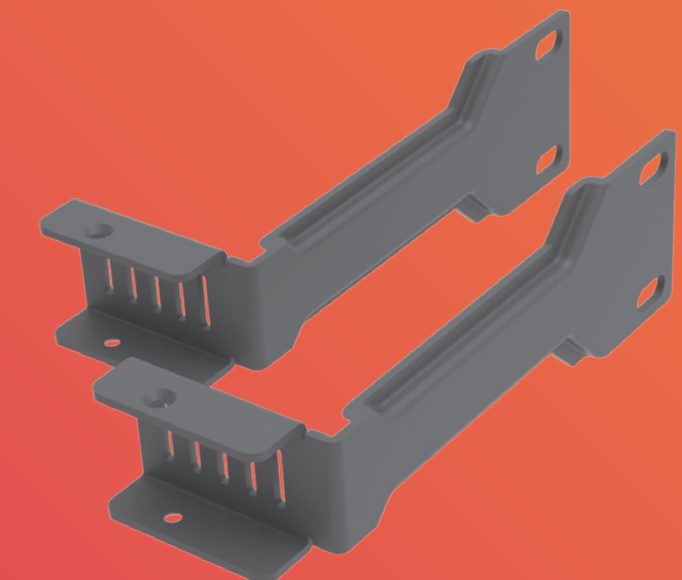
- 10 Gigabit Ethernet ports
- Dual core ARM 1.4 GHz CPU, 1 GB RAM
- SFP port for 1.25 Gigabit connectivity
- LCD display and USB 3.0

RB4011iGS+RM

mt.lv/p/422

RB4011 series - amazingly powerful routers with ten Gigabit ports, SFP+ 10Gbps interface and IPsec hardware acceleration for a great price!

The RB4011 uses a quad core Cortex A15 CPU, same as in our carrier grade RB1100AHx4 unit. The unit is equipped with 1 GB of RAM, can provide PoE output on port #10 and comes with a compact and professional looking solid metal enclosure in matte black.



- Quad-core 1.4 GHz CPU
- 1 GB of RAM
- All metal passive cooled enclosure

Devices with LTE support

wAP ac LTE series

The wAP ac LTE is a small dual band weatherproof wireless access point with a built in cellular modem that supports 2G, 3G and 4G (LTE) connectivity. It has two Gigabit Ethernet ports, a powerful quad-core 716 MHz CPU and 128 MB of RAM. Dual-chain 2.4 GHz and dual-chain 5GHz wireless for dual concurrent AP coverage will solve most interference issues in a crowded environment.

Four versions are available:



- **wAP R ac** wAP R ac is shipped without an LTE card (there is an extra empty miniPCI-e slot), so you can use your own LTE card.
- **wAP ac LTE kit** includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
- **wAP ac 4G kit** includes LTE modem that supports International/USA LTE bands FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- **wAP ac LTE6 kit** includes the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(2100)/2(1900)/3(1800)/5(850)/7(2600)/8 (900)/12(700)/17(700)/20(800)/25(1900)/26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500).

wAP LTE series

The wAP LTE is a small weatherproof wireless access point with a built in cellular modem that supports 2G, 3G and 4G (LTE) connectivity. Connect to the wAP's built-in 802.11b/g/n wireless and access the LTE network from your phone or any other wireless device. The wAP LTE also has one 10/100 Ethernet LAN port for your wired devices.

Four versions are available:



- **wAP LTE kit** includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
- **wAP LTE kit-US** includes LTE modem that supports LTE bands 2,4,5 and 12, mostly used by mobile operators in United States, Canada and Latin America.
- **wAP 4G kit** includes LTE modem that supports LTE FDD bands 3, 7, 20 and 31 as well as LTE TDD bands 41n, 42 and 43.
- **wAP R** is shipped with without LTE card installed (empty miniPCI-e slot), so you can use your own LTE card.

LtAP LTE series

LtAP is a compact, heavy-duty weatherproof wireless access point with three SIM slots and GNSS support (GPS, GLONASS, BeiDou, Galileo). It has high power 2.4 GHz 802.11b/g/n wireless and a Gigabit Ethernet port for your wired devices. There are several power options – DC jack, POE-in and automotive. The unit comes with a two miniPCIe slots, offering many expansion options.

Four versions are available:



- **LtAP** is shipped without an LTE card (there is an extra empty miniPCI-e slot), so you can use your own LTE card.
- **LtAP LTE kit** includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40. One miniPCIe slot is already populated with the LTE modem.
- **LtAP 4G kit** includes LTE modem that supports International/USA LTE bands FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz). One miniPCIe slot is already populated with the LTE modem.
- **LtAP LTE6 kit** includes the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(2100)/2(1900)/3(1800)/5(850)/7(2600)/8 (900)/12(700)/17(700)/20(800)/25(1900)/26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500). One miniPCIe slot is already populated with the LTE modem.

LtAP mini series

The LtAP mini LTE kit is a small weatherproof wireless access point with a built in cellular modem that supports 2G (international version only), 3G and 4G (LTE) connectivity. It is also available separately, without the modem, so you can use your own.

Four versions are available:



- **LtAP mini LTE kit** includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
- **LtAP mini LTE kit-US** includes LTE modem that supports LTE bands 2,4,5 and 12, mostly used by mobile operators in United States, Canada and Latin America.
- **LtAP mini 4G kit** includes LTE modem that supports LTE FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- **LtAP mini** is shipped with without LTE card installed (empty miniPCI-e slot), so you can use your own LTE card.

SXT LTE series

The SXT LTE kit is a device for remote locations that are within cellular network coverage. However, due to it's professional LTE chip design and high gain antenna, it can provide connectivity for your building even where cell phones can't. The device has a built in high quality Category 4 modem for speeds of up to 150 Mbit/s downlink and 50 Mbit/s uplink, as well as two Micro SIM slots for backup link. There is also a new Category 6 version for higher speed and additional features, see the list below.

Five versions are available:



- **SXT LTE Kit** includes LTE modem that supports International LTE bands 1, 2, 3, 7, 8, 20, 38 and 40.
- **SXT LTE Kit-US** includes LTE modem that supports LTE bands 2, 4, 5 and 12, mostly used by mobile operators in United States, Canada and Latin America.
- **SXT 4G kit** includes LTE modem that supports LTE FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- **SXT LTE6** features the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(2100)/2(1900)/3(1800)/5(850)/7(2600)/8(900)/12(700)/17(700)/20(800)/25(1900)/26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500).
- **SXT R** is shipped without an LTE card (there is an extra empty miniPCI-e slot), so you can use your own LTE card.

LHG LTE series

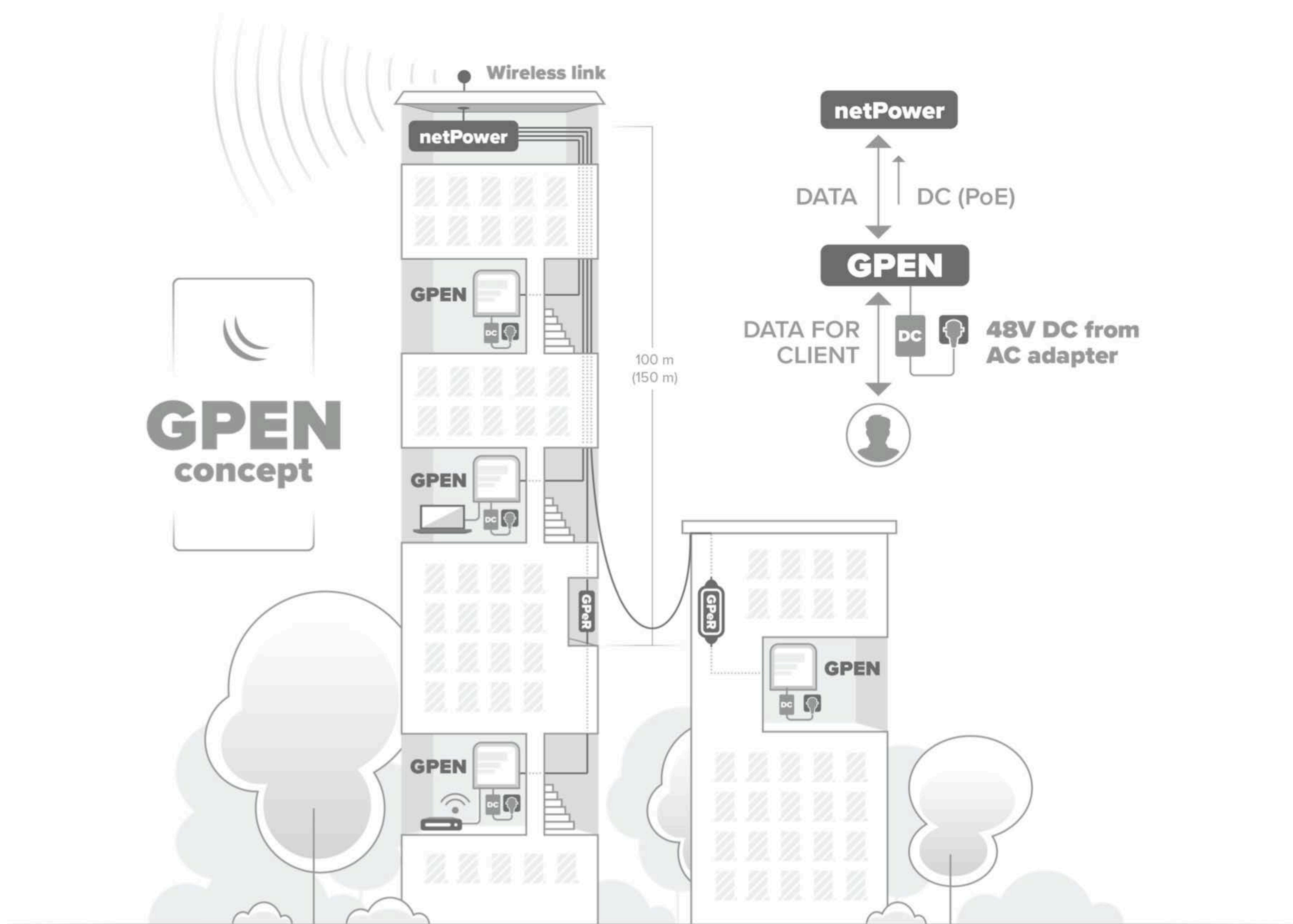
The LHG LTE kit is a device for remote locations that are within cellular network coverage. Mount it outdoors, on a pole, mast or any high enough structure, and connect even where cell phones can't. Due to it's large sized high gain antenna, the device is capable to connect to cell towers in extreme rural locations, giving you the ability to provide last mile internet access where nothing else is available. The unit is equipped with one Ethernet port, has a built in high quality Category 4 modem for speeds of up to 150 Mbit/s downlink and 50 Mbit/s uplink. There is also a new Category 6 version for higher speed and additional features, see the list below.

Five versions are available:



- **LHG LTE kit** includes LTE modem that supports International LTE bands 1, 2, 3, 7, 8, 20, 38 and 40.
- **LHG LTE kit-US** includes LTE modem that supports LTE bands 2, 4, 5 and 12, mostly used by mobile operators in United States, Canada and Latin America.
- **LHG 4G kit** includes LTE modem that supports LTE FDD bands 3 (1800MHz), 7 (2600MHz), 20 (800MHz) and 31 (450MHz), as well as LTE TDD bands 41n (2500MHz), 42 (3500MHz) and 43 (3700MHz).
- **LHG LTE6 kit** features the new R11e-LTE6 Category 6 modem, which enables carrier aggregation and allows the device to use multiple bands at the same time. It supports LTE FDD bands 1(2100)/2(1900)/3(1800)/5(850)/7(2600)/8 (900)/12(700)/17(700)/20(800)/25(1900)/26(850), as well as LTE TDD bands 38(2600)/39(1900)/40(2300)/41n(2500).
- **LHG R** is shipped without an LTE card (there is an extra empty miniPCI-e slot), so you can use your own LTE card.

GPEN concept



GPEN Concept

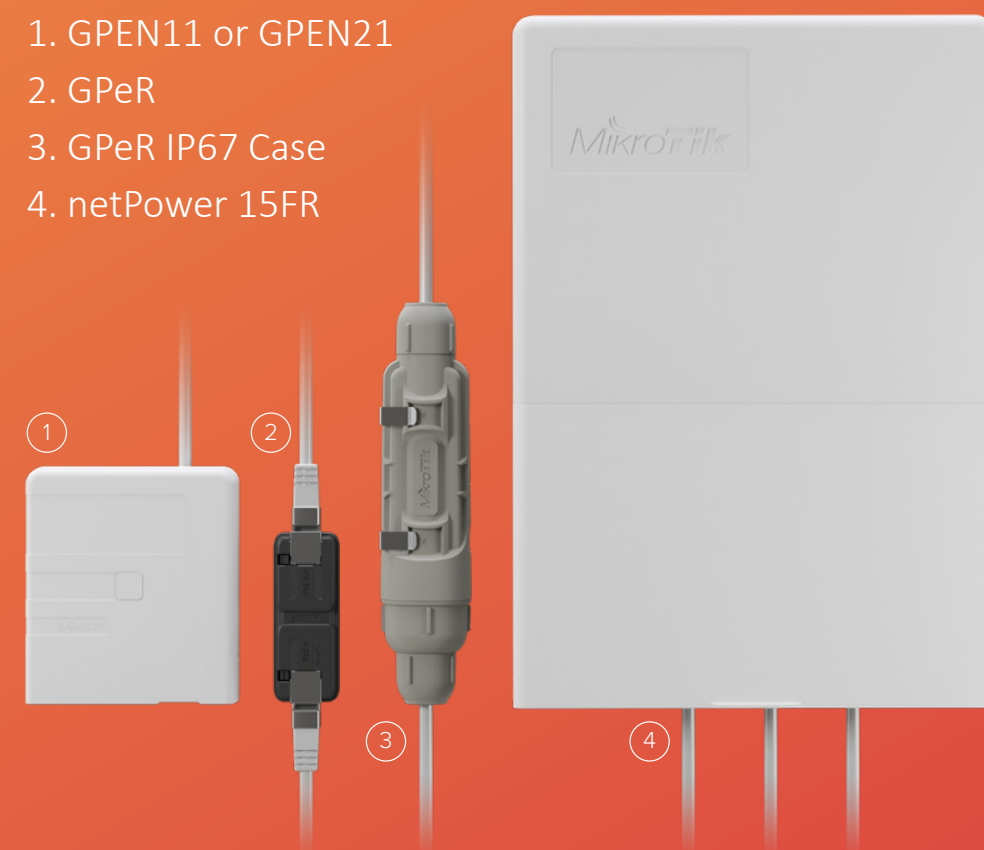
<http://mt.lv/GPENpdf> 

MikroTik GPEN concept can replace any existing or future GPON solution. It provides all the benefits of GPON, but utilizes well-proven, simple and inexpensive Ethernet solutions.

GPEN doesn't require expensive GPON OLT equipment in your server rooms, just a regular switch port!

Similar to GPON, GPEN solution will require clients to provide power, but instead of powering GPON's ONT device, power will be used for extending the Ethernet cable (with our GPeR devices) and powering the netPower device. That is the GPEN analogue of GPON Passive optical splitters – netPower provides additional functionality and possibilities. And the best part of this technology – it give you all the flexibility for a fraction of the price. You can connect netPower to your server room by Ethernet, Active optical line or use it to power one end of point-to-point backbone wireless link. GPEN – the evolution of GPON done right!

1. GPEN11 or GPEN21
2. GPeR
3. GPeR IP67 Case
4. netPower 15FR



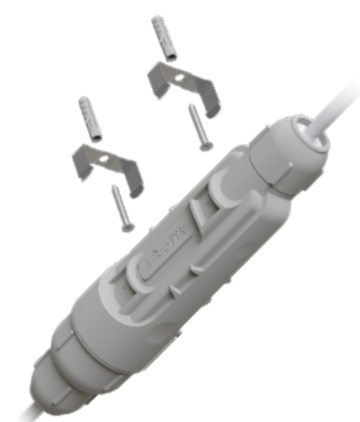
GPeR

mt.lv/p/455 



Extend Ethernet cable by additional hop with the Gigabit Passive Ethernet Repeater

- 100 - 150 m to regular network devices, and up to 210 m to another GPeR unit
- Up to 1,500 m total
- Two Gigabit Ethernet ports
- PoE-in- 802.3af/at or Passive PoE (24- 57 V)
- PoE-out- jumper selectable passive PoE Passthrough



GPeR IP67 case

mt.lv/p/428 

A sturdy and affordable outdoor enclosure for GPeR units. It can be easily mounted on walls and poles. Despite the name, meticulous testing revealed that in real life the enclosure has an IP68 rating with protection from immersion in water, as well as protection from dust.

GPEN11

mt.lv/p/450 



A power injector that can be mounted on a wall, and will power your uplink devices with PoE.

- 2 Gigabit Ethernet ports
- Passive PoE-out
- Can be used to power the ISP equipment, using power from the user premises.
- Has a designated space for an ISP sticker on the front. Sticker size: 6,6 x 2,54 cm.

GPEN21

<http://mt.lv/GPENpdf> 



A smart power injector that serves as an advanced software controlled repeater that can power your uplink devices with PoE.

- 2 Gigabit Ethernet ports
- SFP port for fiber to copper functionality Interface management and monitoring
- VLAN support
- SNMP reporting
- Traffic control and shaping
- Has a designated space for an ISP sticker on the front. Sticker size: 6,6 x 2,54 cm.
- Passive PoE-out
- 802.3af/at PoE-in

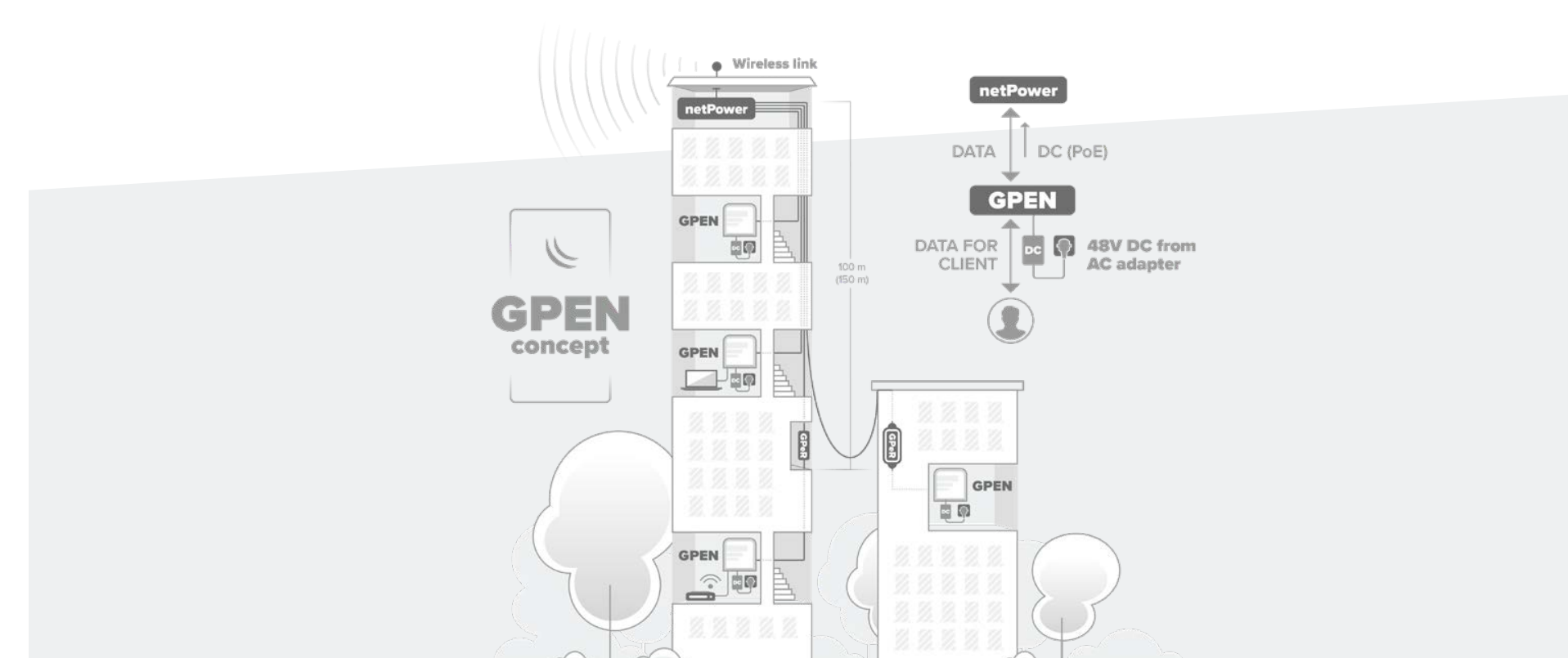
netPower 15FR

mt.lv/p/500 



A 18 port reverse PoE switch in outdoor enclosure. Part of our GPEN concept – aimed to bring the speed and versatility of fiber networking while using the advantages of Ethernet. It is an easy to deploy, low-cost way for any ISP to deliver the Internet to individual apartments.

- 15 reverse PoE-in ports
- Extra PoE-out port- you can use it to power an aggregate link
- Two SFP ports
- Can draw the necessary power even from a single client
- Dual boot feature that allows to choose RouterOs or SwOS



IoT products

New MikroTik IoT products – Internet of things has never been so affordable. MikroTik is bringing you new, powerful IoT products for the fraction of the cost you would expect.



Antenna kit for LoRa®

mt.lv/p/467

Omni antenna kit with a 1 m long SMA cable and mechanical holder for quick and easy mast attachment.

- 824-960 Mhz
- 6.5 dBi
- Vertical beamwidth 30°
- Horizontal beamwidth 360°
- SMA female connector

R11e-LR8

mt.lv/p/189



Concentrator Gateway card for LoRa® technology in mini PCIe form factor. It enables LoRa® connectivity for any MikroTik product that has mini PCIe slot with connected USB lines.

- 863-870 MHz (EU863-870, RU864-870, IN865-867)
- Receive max sensitivity-137 dB @ SF12
- RF Output power 863-870 MHz 20 dBm

R11e-LR9

mt.lv/p/464



Concentrator Gateway card for LoRa® technology in mini PCIe form factor. It enables LoRa® connectivity for any MikroTik product that has mini PCIe slot with connected USB lines.

- 902-928 MHz (AU915-928, US902-928, AS923, KR920-923)
- Receive max sensitivity-137 dB @ SF12
- RF Output power 902-928 MHz 23 dBm

wAP LR8 kit

mt.lv/p/465



An out-of-the-box solution to use Gateway solution for LoRa® technology

- supports 863-870 MHz frequency (EU863-870, RU864-870, IN865-867)
- a pre-installed UDP packet forwarder
- 2.4 GHz WLAN interface
- renowned weatherproof wAP form-factor
- 10/100 Ethernet port that could be used as a backend



wAP LR9 kit

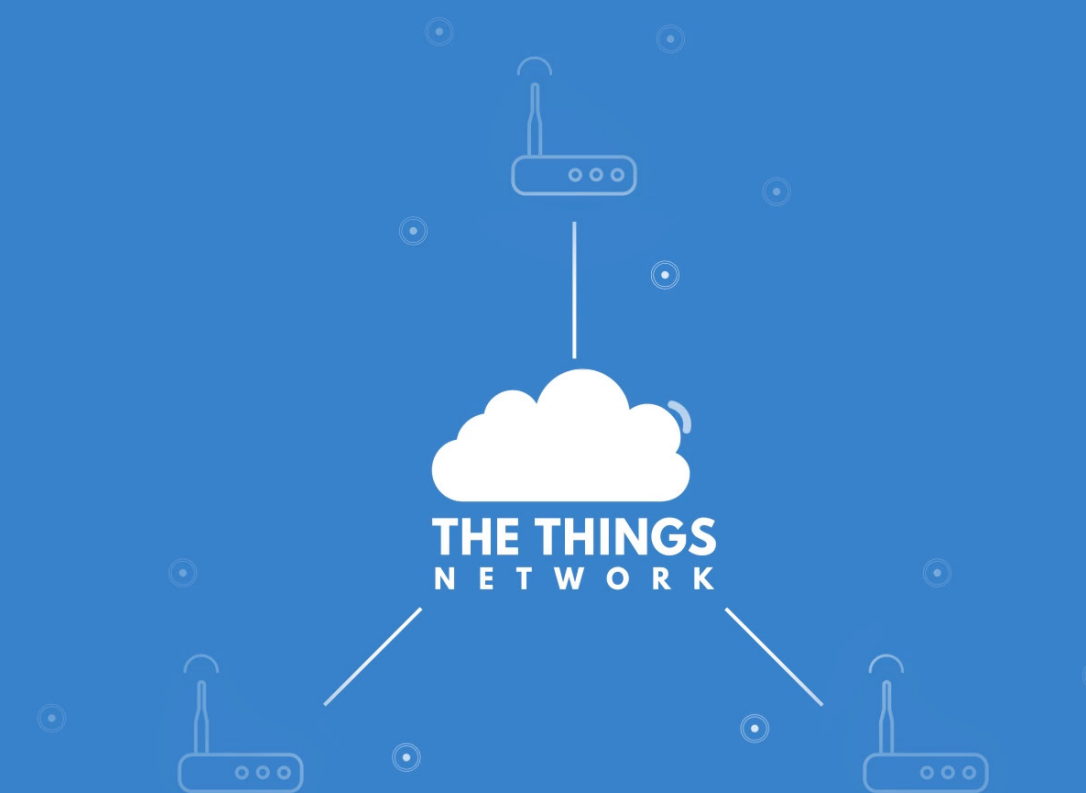
mt.lv/p/466

- supports 902-928 MHz frequency (AU915-928, US902-928, AS923, KR920-923)
- a pre-installed UDP packet forwarder
- 2.4 GHz WLAN interface
- renowned weatherproof wAP form-factor
- 10/100 Ethernet port that could be used as a backend

Our LoRa® are ready to work with “The Things Network” - the famous open source infrastructure that provides free LoRa® network coverage and has tons of apps for your needs. With the help of “The Things Network” you can get started with the Internet of things within a day. And it is easily upgradable to enterprise-grade network “The Things Industries”.

Cattle tracking, smart irrigation, level monitors for liquids, smart pulse sensors and thermostats, smart parking and so on – the possibilities are endless. And the setup is so easy, anyone can learn it. There is a large community of developers and enthusiasts all around the globe – you will never be alone with your questions and ideas regarding the LoRa® network. No need to reinvent the wheel – join “The Things Network” to save time and energy with smart solutions!

With this product family we aim to provide the most affordable LoRa® solution to date without compromising quality or performance.



60 GHz integrated units

Wireless Wire Dish

mt.lv/p/353 



2 Gb/s aggregate link up to 1500m+ without cables!

- Includes two LHGG 60 devices for 60 GHz link
- 1 Gbps full duplex AES encrypted
- Devices already paired together
- Distances 1,500 m+
- Outdoor weatherproof enclosures
- Four core 716 MHz CPU, 256 MB RAM

Wireless Wire

mt.lv/p/331 



2 Gb/s aggregate link up to 200m+ without cables!

- Includes two wAP60 devices for 60 GHz link
- 1 Gbps full duplex AES encrypted
- Devices already paired together
- Distances 200 m+
- Outdoor weatherproof enclosures
- Four core 716 MHz CPU, 256 MB RAM

wAP 60G AP

mt.lv/p/345 



Weatherproof integrated 60 GHz wireless unit to be used indoors or outdoors as a base station or a CPE.

- 60 GHz phase array 60° beamforming antenna
- 4 core 716 MHz CPU, 256 MB RAM
- Distances 200 m+
- Gigabit Ethernet
- Works through most windows, depending on their material
- Outdoor weatherproof enclosure
- RouterOS level 4 license (AP, CPE or Point-to-Point)

wAP 60G

mt.lv/p/347 



Weatherproof integrated 60 GHz wireless unit to be used indoors or outdoors as a Point-to-Point or a CPE.

- 60 GHz phase array 60° beamforming antenna
- 4 core 716 MHz CPU, 256 MB RAM
- Distances 200 m+
- Gigabit Ethernet
- Works through most windows, depending on their material
- Outdoor weatherproof enclosure
- RouterOS level 3 license (CPE or Point-to-Point)

wAP 60Gx3 AP

mt.lv/p/448 



The wAP 60Gx3 AP is a new access point model for the 60 GHz spectrum. Compared with the regular wAP 60G AP, this new model has a completely new antenna array, with support for a much wider angle of coverage and is optimized specifically for multipoint operation.

The 96 antenna elements work with beamforming technology to provide connectivity for up to eight 60 GHz client devices at the same time, in a 180 degree field of view. Build a cost effective point to multipoint setup in the clean 60 GHz wireless spectrum, at a fraction of the cost.

Two units can be used in point-to-point configurations as well.

- Quad-core 716 MHz CPU, 256 MB RAM
- Gigabit Ethernet
- Integrated Phase array 180° beamforming

Cube Lite60

mt.lv/p/478 



The most affordable 60 GHz CPE for crowded wireless spectrum

- 10/100 Mbit Ethernet
- Built-in 60 GHz 802.11ad wireless
- Passive PoE
- Distances up to 800 m

LHG Lite60

mt.lv/p/444 



A low cost CPE unit for connecting to a 60 GHz AP at longer distances, enabling you to build a cost effective point to multipoint setup in the 60 GHz wireless spectrum.

- 60 GHz phase array 60° beamforming antenna
- 650 MHz CPU, 64 MB RAM
- Distances up to 800 m
- 10/100 Mbit Ethernet
- RouterOS level 3 license (CPE or Point-to-Point)

Dual band home access points



hAP ac lite

mt.lv/p/278

A compact dual concurrent 2.4 GHz / 5 GHz SOHO AP with five Ethernet ports in a desktop case and PoE support

- 802.11b/g/n dual chain and 802.11a/n/ac single chain wireless
- Five 10/100 Mbps Ethernet ports (PoE output on port 5)
- 650 MHz CPU, 64 MB RAM
- Compact classic desktop case
- USB



hAP ac lite tower

mt.lv/p/299

A compact dual concurrent 2.4 GHz / 5 GHz SOHO AP with five Ethernet ports in a universal case and PoE support.

- 802.11b/g/n dual chain and 802.11a/n/ac single chain wireless
- Five 10/100 Mbps Ethernet ports (PoE output on port 5)
- 650 MHz CPU, 64 MB RAM
- Universal case to be positioned either horizontally or vertically
- USB



hAP ac

mt.lv/p/284

A dual concurrent 2.4 GHz / 5 GHz high power AP with five Gigabit Ethernet ports, SFP and PoE support.

- 802.11b/g/n triple chain and 802.11a/n/ac triple chain high power wireless
- 5 Gigabit Ethernet ports (PoE output on port 5)
- SFP port for 1.25 Gigabit connectivity, USB
- 720 MHz CPU, 128 MB RAM



wsAP ac lite

mt.lv/p/350

An in-wall dual concurrent 2.4 GHz / 5 GHz wireless access point with three Ethernet ports and telephone jack pass through for hospitality networks.

- In-wall case that fits US and EU most popular telecommunication sockets
- 802.11b/g/n 2.4 GHz dual chain and 802.11a/n/ac 5 GHz single chain wireless
- Pass through telephone jack (RJ11)
- USB for charging mobile devices or for storage
- 650 MHz CPU, 64 MB RAM



RB4011iGS+5HacQ2HnD-IN

mt.lv/p/423

The RB4011 uses the amazingly powerful quad core Cortex A15 chip from Annapurna labs, an Amazon company, same as in our carrier grade RB1100AHx4 unit.

- Quad-core 1.4 GHz CPU
- 1 GB of RAM
- Quad chain 5 GHz, dual chain 2 GHz access point
- All metal pasive cooled enclosure
- External antennas for best coverage

hAP ac²

mt.lv/p/344

The hAP ac² is a Dual-concurrent Access Point, that provides Wifi coverage for 2.4 GHz and 5 GHz frequencies at the same time. Five 10/100/1000 Ethernet ports provide Gigabit connections for your wired devices, and USB can be used for external storage or 4G/LTE modem.

New design universal case allows unit to be positioned either horizontally (desktop) or vertically (tower case). Wall anchored mounting kit is provided.



- 802.11b/g/n dual chain high power wireless
- 802.11a/n/ac dual chain high power wireless
- 4 core 716 MHz CPU, 128 MB RAM
- New design universal case to be positioned either horizontally (desktop) or vertically (tower case)
- Support for IPsec hardware encryption and The Dude monitoring server
- USB

cAP ac

mt.lv/p/343

A powerful dual concurrent 2.4 GHz / 5 GHz wireless access point with two Gigabit Ethernet ports and PoE functionality, that looks beautiful on both walls and ceilings.



- 802.11b/g/n dual chain wireless
- 802.11a/n/ac dual chain wireless
- 2 Gigabit Ethernet ports (PoE output on port 2)
- 716 MHz CPU, 128 MB RAM
- The customizable mode button in the device center will turn off all lights and sounds, can be reconfigured to launch any RouterOS script.
- Two different casings included – circular and square, to match any taste.



wAP ac

mt.lv/p/289

A small weatherproof dual concurrent 2.4 GHz / 5 GHz high power wireless access point for mounting on a ceiling, wall or pole.

- 802.11b/g/n dual chain high power wireless
- 802.11a/n/ac triple chain high power wireless
- Gigabit Ethernet port
- 720 MHz CPU, 64 MB RAM
- Weatherproof outdoor case, available in white or black

Premium class home access points

Chateau LTE12 kit


mt.lv/p/288 



A high-speed, dual-band home access point with CAT12 LTE for really fast Internet anywhere, anytime.

- Category 12 LTE modem (600 Mbps Downlink, 150 Mbps Uplink, 3x Carrier Aggregation)
- 5 x Gigabit Ethernet ports
- Quad-core 716 Mhz CPU
- 256 MB RAM
- 802.11 b/g/n 2.4 GHz dual-chain high power wireless
- 802.11 a/n/ac 5 GHz dual-chain high power wireless
- Micro SIM slot
- 4 powerful (4x4 MIMO compatible!) integrated antennas with an option to connect 2 external LTE antennas via SMA
- full size USB port

Audience LTE6 kit


mt.lv/p/427 



Stylish tri-band home access point with LTE CAT6 support and meshing technology

- Category 6 LTE modem (300 Mbps Downlink, 50 Mbps Uplink, Carrier Aggregation)
- Two Gigabit Ethernet ports
- Quad-core 716 Mhz CPU
- 256 MB RAM
- 802.11 b/g/n 2.4 GHz dual-chain high power wireless
- 802.11 a/n/ac 5.18- 5.3 GHz dual-chain high power wireless
- 802.11 a/n/ac 5.5- 5.85 GHz quad-chain high power wireless
- Micro SIM slot
- PoE-in

Audience

mt.lv/p/321 

Audience is a tri-band (one 2.4 GHz & two 5 GHz) home access point with LTE support and meshing technology. If you need Wi-Fi in a huge building with all kinds of obstacles, simply add more Audience devices to your network – with a press of a button they will sync seamlessly and create a single Wi-Fi network to cover the whole premises. The initial setup is also very simple – download the iOS or Android MikroTik app, it will connect to the router and guide you through a quick setup process.

In some cases a single Audience unit might be able to replace several other routers – in our tests it covered 1858 m² (20000 square feet) easily. It depends on the amount of obstacles, Wi-Fi clients and interference, so results may vary.



PWR-Line Series

PL7510Gi

mt.lv/p/268 



Next level product for even faster power-line connection without long LAN cables

- Gigabit Ethernet
- Use up to 8 PWR-Line devices to build your network
- Passive 24 V PoE-out
- Much faster than usual power-line data devices
- Backwards compatible with PL64xx and PL74xx series

PL7400

mt.lv/p/454 



Power adapter with PWR-LINE functionality for microUSB powered MikroTik router (Type C power plug)

- 10/100 Ethernet
- Built-in microUSB cable for MikroTik products with microUSB port, like hAP mini or hAP lite.
- Type C power plug (commonly used in Europe, South America and Asia)

PL6400

mt.lv/p/453 



Power adapter with PWR-LINE functionality for microUSB powered MikroTik router (Type A power plug)

- 10/100 Ethernet
- Built-in microUSB cable for MikroTik products with microUSB port, like hAP mini or hAP lite.
- Type A power plug (commonly used in USA, Canada, Mexico, Thailand)

PWR-Line AP

[EU: mt.lv/p/436](https://mt.lv/p/436) [US: mt.lv/p/437](https://mt.lv/p/437) 

The PWR-Line AP is a small Wi-Fi access point, made as an accessory to your existing network, for places, where your signal or your cable is unable to reach. Especially useful in homes with thick walls, where you can extend Wi-Fi coverage to those rooms, where signal is poor, without having to re-wire your house. Simply plug this device directly into one of the LAN ports of your MikroTik router, and add another one somewhere further in your premises. They will link together through the power lines. You can install up to eight PWR-LINE devices to further build your network.

- Extend your network without extra LAN cables
- Connects over power lines
- 2.4 GHz 802.11b/g/n dual chain wireless
- 10/100 Mbps Ethernet
- 650 MHz CPU, 64 MB RAM
- EU and US plug models available





Chateau 5G

One router to delight them all – introducing the ultimate home AP with ultra-fast LTE/5G support

KNOT

IoT Gateway for the most versatile and cost-effective setups



CAT-M/NB
technology



2.4 GHz
wireless



Bluetooth



2x 100 Mbps
Ethernet ports



PoE-in &
PoE-out



MicroUSB



GNSS



GPIO



RS485/Modbus

MikroTik RouterOS

Features

Firewall

- ❑ Statefull filtering
- ❑ Source & Destination NAT
- ❑ Filter by IP, Protocol, Port
- ❑ Custom Layer7 matcher
- ❑ IPv6 support
- ❑ Per-Connection-Classifier
- ❑ RAW filtering

Routing

- ❑ Static routing
- ❑ Virtual Routing & Forwarding
- ❑ Policy Based Routing
- ❑ Interface Routing
- ❑ ECMP routing
- ❑ IPv4, IPv6 Dynamic Routing
- ❑ Bidirectional Forwarding Detection

MPLS

- ❑ Static Label binding IPv4
- ❑ Label Distribution protocol
- ❑ RSVP Traffic Engineering
- ❑ VPLS MP-BGP autodiscovery
- ❑ MP-BGP based MPLS IP VPN

VPN

- ❑ IPSec & IKEv2
- ❑ AES-NI hardware acceleration
- ❑ OpenVPN, PPTP, PPPoE, L2TP, SSTP
- ❑ MPLS based VPNs
- ❑ 6to4 tunnel

MikroTik RouterOS

Features

Wireless

- ❑ IEEE802.11a/b/g/n/ad
- ❑ Nstreme, Nstreme2, NV2
- ❑ Virtual AP / Multiple SSID
- ❑ HWMP+ Wireless MESH protocol
- ❑ WEP, WPA, WPA2
- ❑ CAPsMAN Centralised Controller

DHCP

- ❑ Per interface DHCP Server
- ❑ DHCP Client & Relay
- ❑ Static & Dynamic leases
- ❑ RADIUS support
- ❑ DHCPv6 Prefix Delegation
- ❑ DHCPv6 Client

Hotspot

- ❑ Plug-n-Play access to the Network
- ❑ Users Accounting
- ❑ RADIUS support
- ❑ Custom Captive Portal

Quality of Service

- ❑ Simple Queue
- ❑ Hierarchical Token Bucket
- ❑ Per-Connection-Queue

Question ???

