Oxford NANOPORE Technologies

Powerful, real-time, long-read sequencing in the palm of your hand

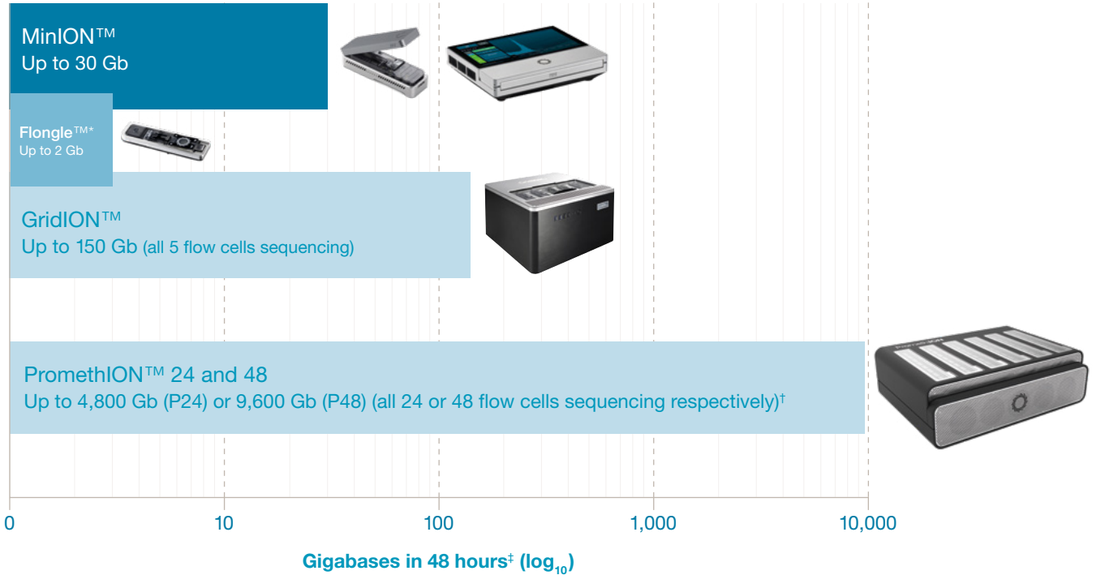
MinION

> “Nanopore sequencing technology is advancing at an unprecedented pace, promising a future where portable sequencing will be routine in surveillance and many other fields.”
>
> **Jana Batovska,** La Trobe University

> “MinION ~5 kb amplicon run basecalling all done at 34.28 Gb, I’ll take that :)”
>
> **Dr. John Tyson,** University of British Columbia

Combining powerful real-time sequencing with complete portability, MinION devices deliver immediate access to gigabases of long-read data

MinION and MinION Mk1C allow you to sequence anything, anywhere — from the bench to the field — with real-time analysis providing immediate access to actionable results. The same DNA and RNA sequencing workflows are available across our products, offering unrestricted read length, from short to ultra-long, and complete scalability to suit your needs.



* Flongle is a flow cell adapter for MinION and GridION, designed for rapid and cost-effective analysis of smaller tests and samples.
† Based on current, internal flow cell performance (theoretical performance of up to 15 Tb).
‡ Devices may be run for longer. 48 hours used for comparison purposes only.

All the benefits of long-read, real-time nanopore sequencing in a portable, low-cost device

Long reads

Discover and phase hidden variation — from repetitive regions and structural variants to novel, full-length transcript isoforms

High yields

As much as 30 Gb* data suitable for all applications — from whole genomes and transcriptomes to high-throughput targeted analyses

Real time

Immediate access to actionable results — from pathogen and antimicrobial resistance identification to fusion transcripts

Portable

Sequence samples at source — combine with VolTRAX™ for portable sample preparation

Accessible

Starter Packs from just $1,000 (MinION) and $4,900 (MinION Mk1C) — with no capital investment or complex IT infrastructure required

Direct

Study native DNA and RNA, not a copy — eliminate amplification bias and detect base modifications

*Best in-field flow cell performance (October 2020).

How will you use your MinION?

From the bench to the field, MinION devices are being utilised throughout the world to deliver new insights and actionable, real-time results for a range of applications.

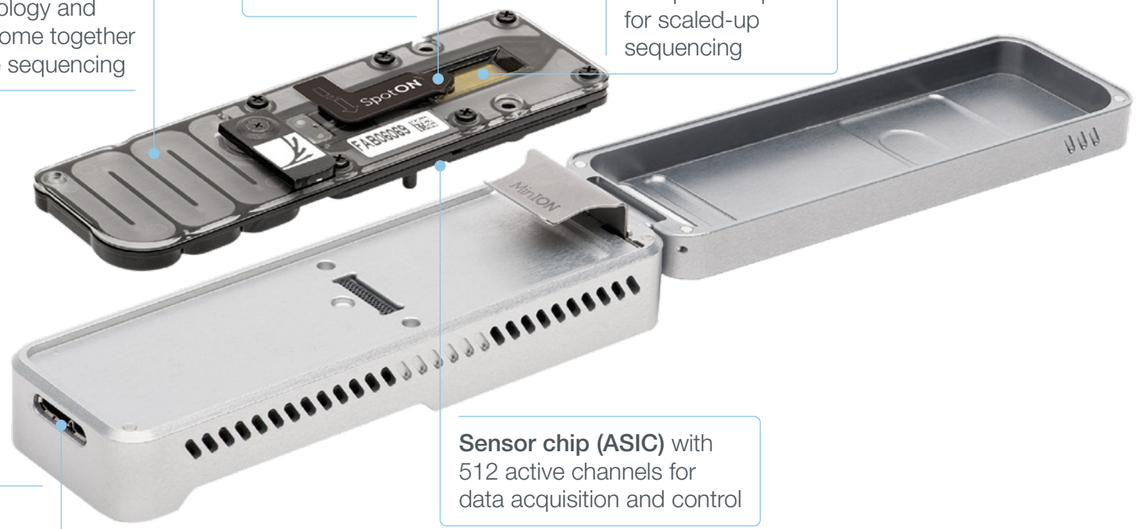
- Whole genome sequencing
- Targeted sequencing
- RNA sequencing
- Metagenomics
- Epigenetics

- Clinical research
- Cancer research
- Transcriptome analysis
- Human genomics
- Basic genome research
- Microbiology
- Microbiome
- Plant research
- Animal research
- Environmental research

Image courtesy of Dr. Sarah Stewart Johnson, Georgetown University.

Portable DNA/RNA sequencing for anyone

Small enough to fit in a pocket and powerful enough to deliver gigabases of data, the USB-powered MinION allows researchers to rapidly generate actionable biological insights across a wide range of application areas.



Consumable flow cell where the biology and electronics come together for nanopore sequencing

Sample added to flow cell here

Sensor array with multiple nanopores for scaled-up sequencing

Sensor chip (ASIC) with 512 active channels for data acquisition and control

USB powered device; link to laptop or desktop computer to operate

MinION

Specification

Weight	**Size**
87 g (103 g with flow cell)	W 105 mm | H 23 mm | D 33 mm

Flongle COMPATIBLE

Choose your MinION Starter Pack

	Basic	Recommended: Enhanced
MinION device	1	1
Flow cells	1*	4
Sequencing kits	1	1
Wash kits	1	1
Community Support	Included	Included
Training included†	-	1-day workshop
	$1,000	**$3,300**

* Includes voucher for second free flow cell.
† A wide range of training and support services are available, for more information visit store.nanoporetech.com/services.

Buy now store.nanoporetech.com

Fully integrated, portable sequencing and analysis

MinION Mk1C combines the real-time, rapid, portable sequencing of MinION and Flongle with powerful integrated computing and a high-resolution touchscreen — offering a complete, go-anywhere solution for DNA and RNA sequencing and analysis.

High-resolution touchscreen display allowing complete device control and easy visualisation of results

Connected: Bluetooth and Wi-Fi enabled — upload and share your data, wherever you are

Integrated, powerful, real-time compute with pre-installed basecalling and analysis software

Data files are written to an **onboard, high-capacity SSD;** data can then be transferred to your own system

Use **Flongle** for smaller tests and analyses, or **MinION Flow Cells** for tens of gigabases of data

MinION Mk1C

Specification

Weight	Size
420 g	W 140 mm | H 30 mm | D 114 mm

Flongle COMPATIBLE

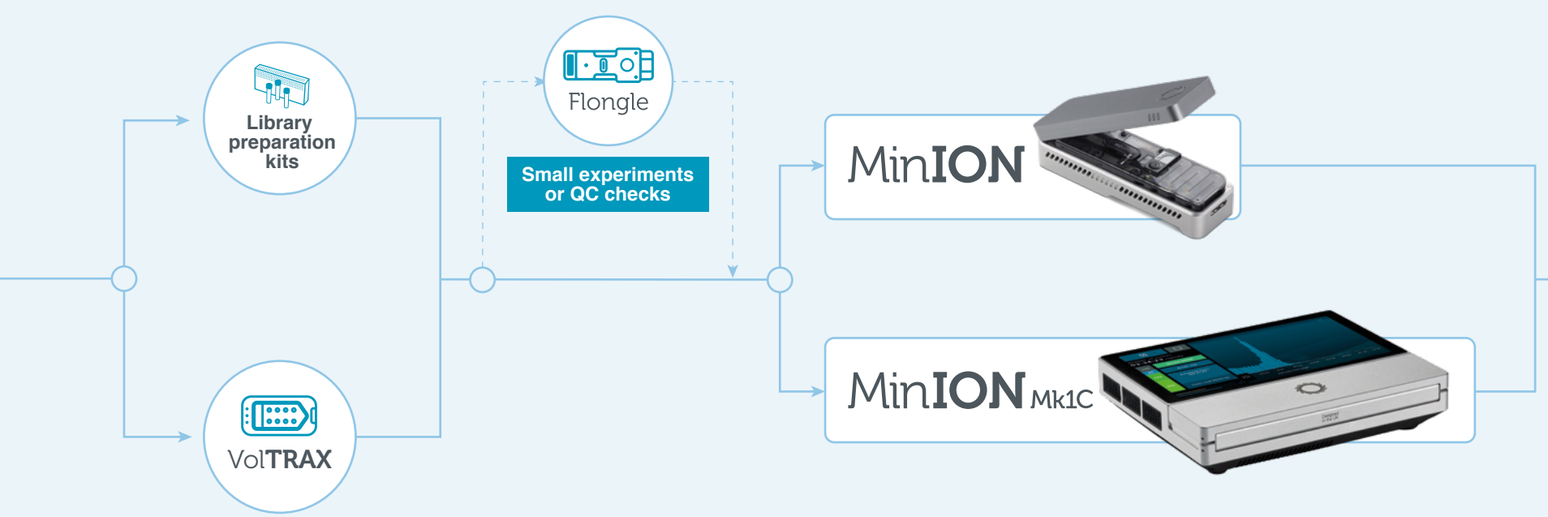
Choose your MinION Mk1C plan

	Basic	Enhanced	CapEx*
MinION Mk1C device	1	1	1
Flow cells	6	12	-
Sequencing kits	1	2	-
Wash kits	1	1	-
Software licence and device warranty†	12 months	12 months	12 months
Community Support	Included	Included	Included
Training included‡	-	1-day workshop	-
	$4,900	**$9,900**	**$9,300**

* Device purchase.
† Extended warranties available.
‡ A wide range of training and support services are available, visit store.nanoporetech.com/services for more information.

Buy now store.nanoporetech.com

A complete and streamlined workflow for rapid access to actionable results



	Bioinformatic capability needed:	
EPI2ME™	● ○ ○ ○	Use cloud-based or local EPI2ME platform for real-time analysis workflows. **nanoporetech.com/analyse**
EPI2ME Labs	● ● ○ ○	Explore your data and develop your bioinformatics skills with interactive, best practice workflows and tutorials. **nanoporetech.com/analyse**
Community-developed tools	● ● ● ○	Run open-source tools written and developed by the Nanopore Community. **community.nanoporetech.com**
Custom analysis pipelines	● ● ● ●	All the data, raw or basecalled, can be used in custom analysis pipelines written by the user for specific applications.

More information nanoporetech.com/products

Prepare

- Streamlined library preps — in as little as 10 minutes, with multiplexing options
- Scale according to your needs — same chemistry and kits used for Flongle, MinION, GridION Mk1, and PromethION
- Automate library preparation using the portable, USB-powered VolTRAX

Sequence

- Sequence what you need, when and where you need it
- Read lengths determined by your sample and experimental needs
- MinION devices sequence DNA and RNA directly — meaning no amplification bias and retained modification information
- Run smaller sequencing tests and experiments or cost-effectively check your sample quality using Flongle on MinION

Analyse

- Real-time results for time-critical applications such as pathogen identification
- User controlled run time — stop sequencing when sufficient data generated, wash and reuse flow cell
- Portable data analysis using MinION Mk1C or combine MinION with a laptop
- Output raw signal or basecalled .fastq files for use in custom analysis pipelines

Applications include:

- Rapid metagenomic species identification and antibiotic resistance profiling
- Accurate high-coverage microbial genome assemblies (DNA and RNA)
- Enhanced large genome analysis (e.g. cancer samples) through accurate mapping of structural variation, repetitive regions, and phasing
- Quantify and characterise RNA splice variants, isoforms and fusion transcripts

Enhance your MinION sequencing workflow...

Prepare

Automated library preparation for nanopore sequencing.

- Small, USB-powered device
- Minimal hands-on time
- Reproducible results

nanopore.com/products

VolTRAX

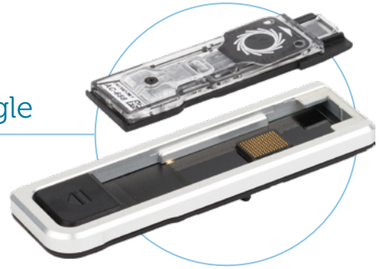
Sequence

Adapting MinION devices for smaller, rapid tests and analyses. Delivering as much as 2 Gb data, Flongle is suitable for:

- Smaller samples (e.g. targeted regions and smaller genomes)
- Rapid sample ID or quality checking
- Low-cost regular testing

nanopore.com/products

Flongle



Analyse

Providing straightforward, best-practice data analysis workflows and interactive tutorials — from basic quality control to genome assembly.

- Minimal installation requirements
- Interactive tutorials for your data
- Fully customisable

nanopore.com/analyse

EPI2ME Labs

*Coming soon

...with data analysis in real time

EPI2ME

Real time data analysis workflows accessed through the cloud or locally using MinION Mk1C*.

Example workflows:

What's In My Pot (WIMP)
Species-level identification and quantification of microbes from metagenomic samples

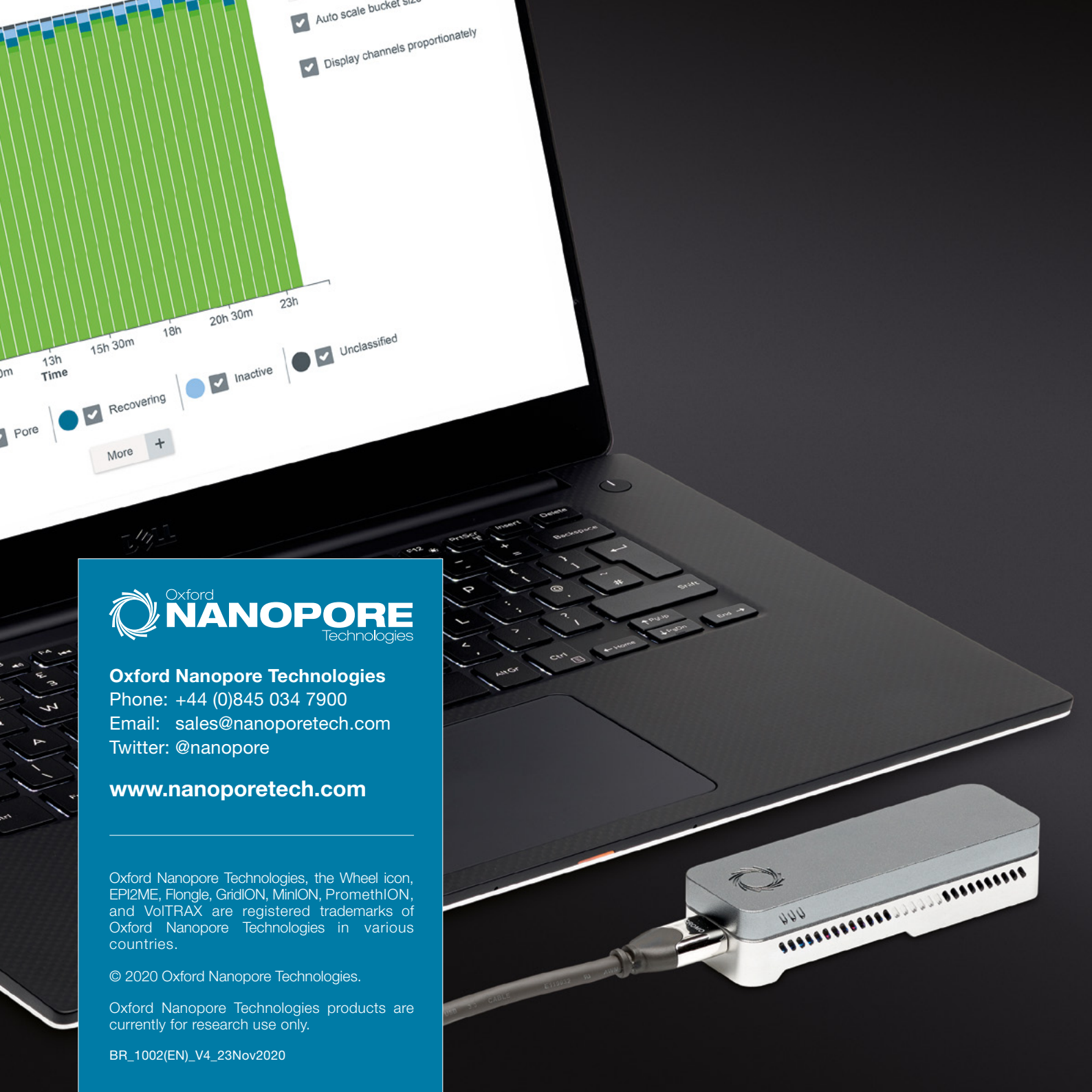
ARMA Builds on WIMP with full antibiotic resistance profiling

16S Genus-level identification of bacteria and archaea in metagenomic samples

Custom Reference Alignment
Align genomes to any reference sequence

Human SV
Map and identify structural variation across the whole human genome

nanopore.com/analyse



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