



GPS GADGETS, APPS & MAPS



Gabriella Le Breton

On-snow technology is developing fast, making it hard to keep up with all the advances in kit. Who would have guessed just ten years ago that we would be skiing with GPS-enabled tracking devices, watches and even goggles? These gizmos are undeniably clever, but are they worth it? *Ski+board's* technology editor **Gabriella Le Breton** investigates.

SUUNTO AMBIT3 PEAK WATCH ■ FROM £360

The Suunto Ambit3 Peak watch is everything a backcountry skier, mountaineer and outdoor enthusiast could ask for in one timepiece. Its rechargeable lithium-ion battery powers an altimeter, barometer, compass and heart rate monitor. The GPS means you can track distance, speed, location, routes and points of interest. Using Suunto's intuitive Movescount.com website, you can link the watch to your computer, tablet or phone to log, view and share your achievements as well as upload waypoints and routes from the site. The watch has dedicated functions for cyclists, runners, triathletes and swimmers with over 1,000 free Suunto apps for specific training goals. This is one brilliant piece of kit. suunto.com



TRACE TRACKER ■ £115

Trace is a light and durable GPS-enabled tracker, which is just 5cm (2in) in diameter, 2cm thick, and can be mounted on your skis or board. Come the end of the day, Trace connects with your smartphone via Bluetooth 4.0 and, within seconds, you receive data about the resorts you visited, your maximum speed, the distance, pistes and vertical you covered, how many calories you burned. It even claims to record any tricks you pull such as 360s and backflips. Trace has a seven-hour rechargeable battery and comes with a free app to let you compare your achievements with friends using Live Leaderboards for the day, resort or season. In short, it's a vital piece of kit for bragging rights. activereplay.com



GTREK2 TRACKER ■ £100

This tiny box is essentially a beefed up geotagger giving a detailed account of your day — not just where you've been but how far, high and fast. Its power-efficient logging ability allows it to collect data for up to 42 hours after a 20-minute charge and it can get a fix on up to 60 satellites in two seconds. It will also automatically geotag your photos so that once you download your data using the GPS software provided, you can replay your day on Google Earth in a 3-D virtual tour, adding in your geotagged photos, and share it with your friends on Google Earth. It may not be as slick as Trace, above, but it's easy to use and does what it says on the tin. gtrek.co.uk

RECON SNOW2 HEADS-UP DISPLAY

■ FROM £235

Thanks to Snow2's GPS-enabled heads-up display (HUD), you can indulge your inner fighter pilot while you navigate the slopes. You can buy the HUD unit separately and install it inside your existing goggles or buy it pre-installed with select brands including Oakley and Uvex. A neat, digital display shows your speed, distance, altitude, vertical descent and airtime, as well as the local trail map and location of your friends. Snow2 provides further benefits — or arguably distractions — by enabling you to read text messages, view incoming calls, control music and share your data online through the Engage website and app. Its innovative mirror and prism technology means that you don't need to refocus too much when viewing the HUD. Although the physical screen is tiny, the fact that it is so close to your eye means that the statistics and data it displays appear as big as if you are looking at a 14in screen from a distance of a metre and a half (5ft). However, it does take some getting used to. Fortunately you can switch it off when it's distracting you, which will also conserve the battery, which lasts about six hours on one charge.

shop.reconinstruments.com



GARMIN OREGON 600 ■ £320

The latest, toughest Garmin Oregon represents a marked improvement on previous incarnations of this handheld touchscreen GPS device. Garmin has improved its software and hardware, making for better general use, easier navigation and faster satellite fixes. Thanks to a preloaded worldwide basemap, you can intuitively interact with maps, zooming in, panning out and rotating them (even with gloves on), while new reflective display technology makes the screen easier to see in bright sunlight. You can share photos, geocaches, routes and custom maps wirelessly and synchronise your data to the Garmin Cloud, so that you can access it via your smartphone. The Oregon 600's dual battery system (rechargeable and traditional AA) gives an impressive 16-hour battery life. All in all, this is the ideal handheld for the outdoor enthusiast — you'll enjoy using it as much on your bike as you will on the slopes. buy.garmin.com



HIT OR MISS?

HIT

SKI MOJO

■ £390 INCLUDING P&P

Skiing can prove tiring, which is why British inventor Owen Eastwood came up with the Ski-mojo. This device is discreetly hidden under your ski trousers and clips to the top of your boots, effectively spring-loading your legs with a couple of shock absorbers, taking much of the effort out of turning. And for the first time this season you can use it with hire boots.

For the first few minutes the Mojo feels weird, but soon you get used to the way it powers you through big turns on gentle runs. More advanced skiers should not rule it out either. Even off-piste, instructors could not tell when users had it switched on or not. If anything it improves technique, by pushing a skier's hips forward.

Devotees include comedian Sandi Toksvig, who noticed a big difference in exhaustion levels towards the end of the day. Be prepared to spend a bit of time setting it up for the first time, though this season much of the faff has been removed as it can be clipped on to rental boots with no drilling involved and you do not need to cut the rods to length.

skiallday.co.uk



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RAX SKI

■ £138 TO £210 PLUS P&P

A good ski gadget should not require you to drastically alter your skiing. This is a drawback of the RaxSki. The idea behind these mini-skis sounds fair enough. Most of us struggle to turn long skis in powder, so why not give them just the front half? After all that's the bit that does most of the work.

Well, aside from all the wisecracks you learn to put up with, part of the problem is that you need to lean back like crazy to steer the things. As well as ruling out an easy return to normal skis, this can make most pistes feel like cobbled streets, as you have no camber to absorb the bumps and no pressure on the front of the skis to cut through the crud.

They are, admittedly, easier to turn than longer skis, but that is where it ends. Sorry, sometimes there are no short-cuts...

raxski.com

MISS





THE BEST APPS

While we all appreciate the integral role of technology at work and in our homes, its function in the mountains is less immediately apparent. However, the ski industry is embracing technology in an unprecedented way, with smart phone apps telling us where, how far and how fast we've skied, making the mountains easier and safer to navigate and more fun.

There are apps to help you get in shape before your trip (**SNOW FITNESS**, £1.99) and decide what to pack (**MAMMUT PACKING LIST**, free) as well as apps with step-by-step guides for snowboard tricks (**SNOWTRIX**, £0.69) and split screen video analysis tools to nail your carving (**SKI SCHOOL**, £2.99).

The Ski Club's free app provides detailed snow reports, piste conditions, weather forecasts and live webcams for some 300 resorts across the world. And, handy for the mountain geek, **POINT DE VUE** (£2.49) synthesises the landscape when you point your phone at it and identifies the surrounding peaks, providing their names and altitudes.

Thanks to **SKITRACKS** (£0.69), you can monitor the distance, vertical feet and speeds you travelled over the course of the day while **SNOWEDGE** (free) ups the ante by further tracking acceleration, G-force and air time, enabling you to compare your stats with friends.

It should be pointed out, however, that the readings you get for your maximum speed with such apps will often not be accurate. If an app shows that you are reaching speeds of more than 95kmh (60mph), this should be a sign to treat it with suspicion, as these are approaching downhill racer speeds. And some GPS enabled devices have 'shown' recreational skiers to be doing 99mph — faster than any professional racer.

This is all the more reason to avoid the dangerous practice of trying to clock up the maximum speed on your phone. If you are determined to check your speed, some resorts have dedicated speed race pistes, which show your speed on a sign at the end.

One day very soon we'll all be finding our way around the pistes on mobile devices, as paper piste maps go the way of road atlases. Most major resorts offer free apps, providing users with piste maps which are interactive to a greater or lesser extent, as well as local weather forecasts, real-time information on lift openings, piste grooming schedules and details of mountain restaurants. Should a resort not boast its own app, sites such as **SKIDEA.COM** and **MOUNTAINDYNAMICS.COM** enable users to download maps of ski resorts to **GARMIN** or **MAGELLAN GPS** devices for free

or for a nominal sum. Alternatively, **ITRAILMAP3D** (£2.99) enables you to download overhead maps and 3D piste maps for over 750 ski resorts across the globe, using the built-in GPS to navigate the slopes. Although this means you don't have to battle with paper maps on blustery chair lifts, not all the resorts have full 3D map support and running GPS on your phone burns down the battery quickly, while bright sunlight makes the screen hard to see.

The race to create the technology that allows skiers to see where they are on the panoramic 3-D artist's rendition of the mountains that we are familiar with from paper piste maps has taken many twists and turns. Viewers of BBC2's *Dragons' Den* may have seen Jean-Claude Baumgartner win over judges Theo Paphitis and Peter Jones to his android interactive trail map, **SATSKI** or **SATSPORTS**. And indeed when *Ski+board* tested it a few years ago, it worked remarkably well — remarkable given that in his enthusiasm to get funding Baumgartner fudged his facts and was jailed in 2012 for more than two years, stalling

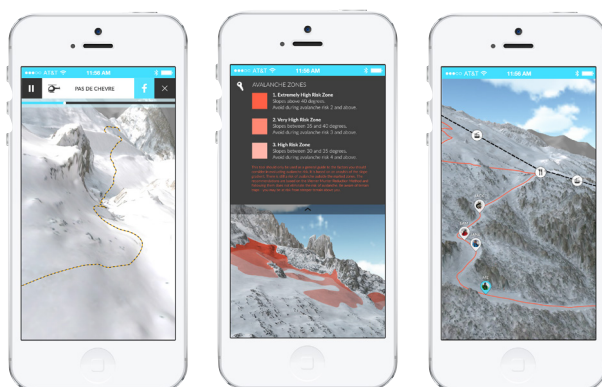
progress there. However, in December another company, **FATMAP (FATMAP.COM)** is promising to launch a 3D mapping app initially covering Chamonix, Verbier, Zermatt, Espace Killy and Paradiski from £2.49 per resort per year or £9.99 to include freeride areas. *Ski+board* will keep you posted with reviews.

It's important to remember that apps aren't just about sourcing resort information but can also help to ensure your safety on the mountain. The free **MAMMUT SAFETY** app is good for off-piste skiers and riders: the software provides global avalanche bulletins, a compass, clinometer, altimeter and an SOS button, which instantly transmits the coordinates of your location by text to the local emergency services. While this app is no alternative to an avalanche transceiver, it's a useful addition to the off-piste skier's safety arsenal.

If you're concerned that these apps will rack up huge data roaming charges on your mobile phone bill, download maps before you leave home. Alternatively, look out for free WiFi on lifts and in mountain restaurants. And bear in mind that the recent caps on roaming charges within the European Union and Norway, do not apply to Switzerland or Andorra.

If you want to track your skiing day, but prefer not to use a mobile or buy a gadget, log on to **SKILINE (SKILINE.CC)** and enter your lift pass number. It will generate an altitude diagram showing how many kilometres and vertical metres you covered by recording your lift journeys in 100 resorts in nine countries, including Austria, Switzerland and Italy.

Give us your verdict on how the latest ski gadgets and apps perform at skiclub.co.uk/chatforum



Fatmap is launching a 3D mapping app that promises to show you where you are on the mountain, whether on or off-piste