# Parrot®

# The best technologies to play, communicate and fly

Parrot, a global leader in wireless peripherals for Smartphones and Tablets, has unveiled new innovations at CES, scheduled to be available in 2014.
Resulting from Parrot's proven expertise in wireless and signal processing technologies, these new projects and developments presented for the first time at CES 2014 will once again illustrate the creative capability and technological proficiency contained in the company's three main business units:

↗ **Consumer electronics** following a bold entry into the world of connected toys;
↗ **Automotive** with the demonstration of an innovative and scalable connected infotainment solution, designed for car manufacturers;
↗ **Drones** with major technological innovations, especially in the professional sector.

## Consumer electronics

↗ **Parrot MiniDrone:** A miniature drone, piloted via Bluetooth Smart with a Smartphone or a Tablet, that flies... and rolls from floor to ceiling!
↗ **Parrot Jumping Sumo:** The first robot-insect controlled via Wi-Fi 5GHz with a Smartphone or a Tablet, which spins, jumps up to 80 cm and can make 90 degree turns.

## Connected in-car electronics

↗ **Parrot OEM:** SOCA a scalable, connected multimedia solution based on Android and designed for car manufacturers (OEM).

## Professional civil drones

↗ **Parrot senseFly:** The ability to produce aerial 'oblique' images during flight for more complete mapping.
↗ **Pix4D:** A new software package introducing ground-breaking editing tools & a new subscription model.

# Parrot MiniDrone & Parrot Jumping Sumo
# When technology conquers toys!



*With **Parrot MiniDrone** and **Parrot Jumping Sumo**, two ultra-technological, yet simple-to-use toys, Parrot aims to reinvent the pleasure of playing for children of all ages.*

## Parrot MiniDrone: fly and roll from floor to ceiling!

Connected to a Smartphone or a tablet with **Bluetooth Smart** *(Low Energy)*, the **Parrot MiniDrone** offers flight stability worthy of professional drones.
Thanks to its numerous sensors and its autopilot capabilities, Parrot MiniDrone is the easiest-to-fly quadricopter.
Its ultra-compact and light-weight design, combined with its powerful motors, allows the Parrot MiniDrone to fly at high speeds and perform high-precision acrobatics.
Attach two ultra-light wheels to the MiniDrone structure and it can climb along a wall or move across the ceiling before taking off again into mid-air.

## Parrot Jumping Sumo: the 'insectoid' toy...

Piloted via Wi-Fi 2.4 or 5GHz with a Smartphone or a Tablet, **Parrot Jumping Sumo** is a new genre of connected robot.
Half robot, half insect, it is equipped with a gyroscope and an accelerometer, which provides fool-proof agility and intuitive control. It can roll, turn 90 degrees with speed and astonishing precision - meaning no obstacle is too challenging – and also perform spectacular jumps (up to 80 cm) always landing on its "wheels"!
With an embedded camera, its acrobatic and fast-paced movements are streamed onto the screen of the controlling Smartphone or Tablet.

## Parrot MiniDrone & Parrot Jumping Sumo

↗ Availability: **2014**
↗ MSRP: **TBA**
↗ Video on http://youtu.be/3LZgTgI0REk

#parrot #ParrotJumpingSumo #ParrotMinidrone

# Rethinking in-car electronics with Android and Ethernet:
# Parrot SOCA, a scalable infotainment architecture for car manufacturers.

**With Parrot SOCA, Parrot offers a unique vision of the connected car via a scalable and flexible infotainment system running on Android 4.4, with no modification of the source code.**
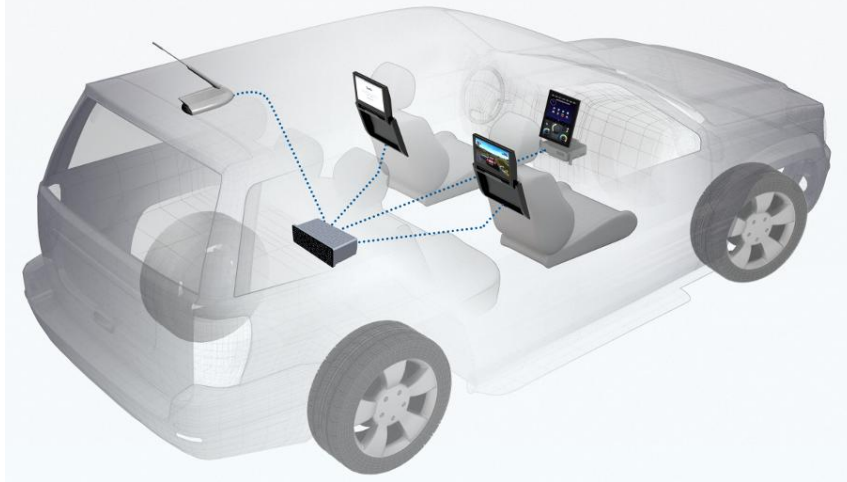


*Example of the SOCA architecture.*

In modern cars, electronics, screens and connections are getting more and more complex. Parrot intends to simplify the lives of car manufacturers with innovative technologies, connected both wirelessly and via Ethernet, using a reliable base system based on Android from Google.

Parrot SOCA is the most advanced implementation of Android for the car.

A car manufacturer can easily integrate its future models with Parrot SOCA,:

↗ An open system, with tactile and vocal interface, and a fully customizable user interface that is consistent with the car brand ;
↗ Android Apps (driving assistance, navigation, music, games…)
↗ Ethernet in TCP/IP and Audio Video Bridging (AVB) that transmits in the car all content and video flux in 1080p including rear-cameras. The result? Less cables which also reduce the weight of the vehicle ;
↗ Access to the information of an on-board computer ;
↗ Bluetooth/Wi-Fi/USB sharing connection or via 4G modem ;
↗ Bluetooth hands-free telephony ;
↗ Extended capabilities like Miracast for the mirroring of the Smartphone ;
↗ Optional, a Smart Antenna, that brings AM/FM radio, digital radio and TV (DAB, TNT...), GPS with a single antenna.

Scalable because it is based on the latest technologies and protocols, Parrot SOCA also innovates in being based on known, well-tried and economic hardware systems:

↗ For the driver and passengers' screens (in the headrests), car manufacturers can easily deploy systems that are similar to tactile Tablets, based on a processor like Nvidia or Parrot P7.
↗ The **Parrot SOCA** architecture runs on **a 1-DIN Linux box** easy to embed and based on a Dual Core Parrot P7 processor.



Thanks to Parrot SOCA, car manufacturers benefit from a comprehensive and scalable connected solution at a controlled cost.

## Parrot Smart Antenna

The architecture of **Parrot SOCA** can be enhanced with the "**Smart Antenna**", which is a SDR (Software-Defined Radio).

This will enable the management of a large range of signals:
- ↗ AM/FM radio, digital radio (DAB, DRM, HD-radio)
- ↗ Digital TV (DVB-T, ATSC, ISDB-T, CMMB, CTTB)
- ↗ GPS

It integrates an antenna and all required receptors, in the same box so there is no need to install additional cables between the antenna and each of the receptors.

The **Smart Antenna** distributes these signals on the vehicle's Ethernet network to all connected terminals. This enables the grouping of all signals into one cable, instead of using one cable per signal

Using a versatile polyvalent receptor and Ethernet networking, the Parrot SOCA architecture enables a simplified and economic deployment of multiple signals dedicated to the driver.

## Parrot SOCA :
- Availability: **2014**

## Parrot Smart Antenna :
- Availability: **2015**

*Parrot, with its OEM division for car manufacturers, is a leader of in-car connectivity, having equipped more than six million vehicles with high-end technology in 2013.*

# Drone aerobatics, the creative solution for taking amazing oblique images

**senseFly releases its patent-pending technology for oblique images, a truly innovative way to enable its fixed-wing mapping drones to take extraordinary images without the use of a gimbal.**

senseFly's drones eBee and swinglet CAM, both designed for mapping missions, are now also capable of quickly taking amazing oblique images to complement a mapping project or add additional documentation.
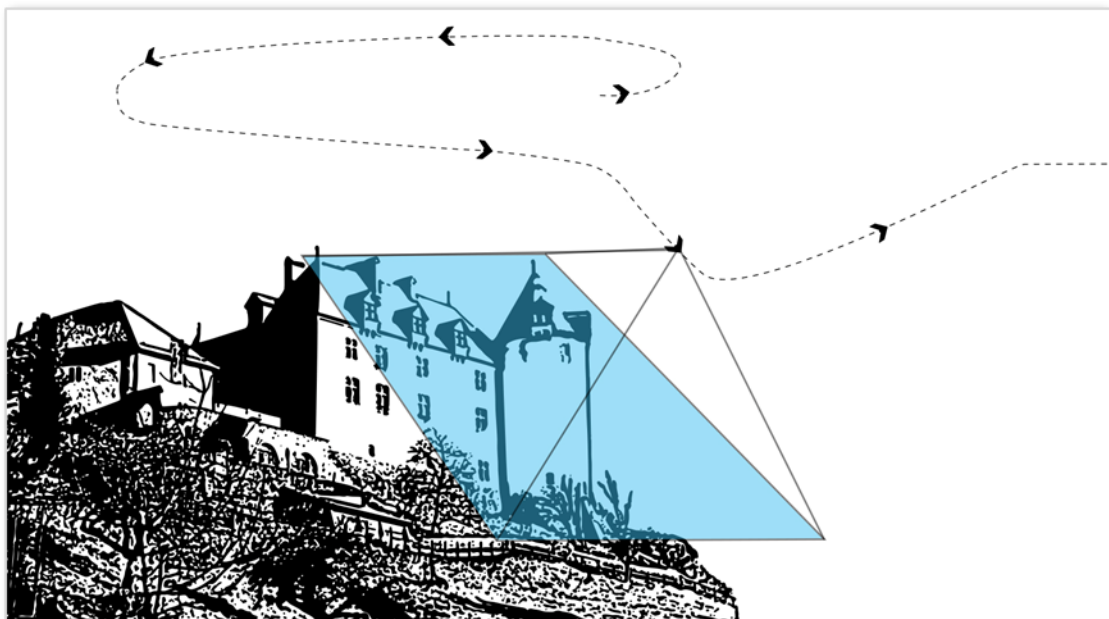


Figure 1 : orientation of the camera towards the photo target

This patent pending technology is based on a propriatary control algorithm that takes oblique images of photo targets without the need of a camera gimbal, enabling senseFly's ultralight mapping drones to take aerial shots with up to 45° inclination from the photo target.

The algorithms running onboard the drone's autopilot automatically place and orient the drone based on the defined image resolution and inclination (0-45°) selected by the operator. The drone then adapts its trajectory according to local wind and target altitude.

Having a system that positions the camera autonomously with respect to the photo target enables senseFly's drone systems to take precise oblique images without the need for live video feedback or a camera gimbal.

As these new techniques do not require any hardware changes, this novelty is freely available to the full community of eBee and swinglet CAM (late 2012 model) users with the new release of eMotion 2.2.

Figure 2 : image of the photo target

Beside creating stunning visuals, senseFly's latest release of Postflight Terra 3D will enable users to go one step further and add these oblique images to a standard mapping flight, adding visibility to facades and vertical surfaces.

Watch the video here: senseFly's patent pending oblique imagery

## ABOUT SENSEFLY

senseFly is a Swiss company that develops and produces autonomous ultralight flying drones (also called UAVs) and related software solutions. The technology behind senseFly's solution originated in 2001, when a team of robotic researchers at EPFL began investigating the control and navigation strategies of flying insects. This pioneering research enabled the development of a highly integrated autopilot employing smart control strategies similar to those found in flies and bees. senseFly was founded by a team of researchers, pilots and geomatic engineers in late 2009 and launched its first commercial product shortly after. The swinglet CAM is a flying drone for aerial imagery acquisition and mapping. In 2012 senseFly joined the Parrot Group and is since then more than ever pioneering the field of flying drones for mapping and GIS applications. Its latest product, the eBee, was launched in October 2012. The company currently employs more than 50 employees.

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# Pix4D releases new software package introducing ground-breaking editing tool & subscription model

**Pix4D announces the release of Pix4Dmapper, the new software package with a ground-breaking and fully integrated editing tool providing extended CAD and GIS possibilities. The rayCloud, Pix4D's latest innovation included in Pix4Dmapper, combines the 3D point cloud with the original images for easy viewing as well as highly accurate semantic annotation and project improvement.**

**Pix4Dmapper is available as of January 13, 2014, both as a one-time charge license and a monthly or yearly subscription model to give customers all options without any limitations in a package that scales to all needs.**

Pix4D's goal is to provide customers with cutting-edge technology and ground-breaking tools combining the latest innovations of Computer Vision and Photogrammetry. Orthomosaics, DSMs and Point clouds generated with Pix4Dmapper achieve survey-grade accuracy from any aerial or oblique imagery, ranging from lightweight compact cameras used on UAVs (including GoPro, multi-spectral cameras and Fisheye lens) to SLR's and large photogrammetric sensors carried by aircraft. New algorithms allow for even more precise and stunning results and help customers to get the most out of their UAV imagery.

While Pix4Dmapper's fully automatic workflow stays as intuitive and easy to use as prior Pix4D software packages, it gives users full control over all tie points, calibration and results. Using the rayCloud Editor, users can now assess, edit, interpret and improve results directly in the software thanks to the rays connection the 3D point cloud to the original input images. The rayCloud makes it possible to annotate and measure objects with the highest accuracy, to fully control tie points as well as calibration and even to use annotations to reprocess projects in order to improve the overall project accuracy.

To help users get the most out of its ground-breaking technology, Pix4D has invested in creating an extensive Knowledge Base that is constantly updated with latest articles, advice and tutorials. Supporting customers in all project stages is key to Pix4D, reason why both Personal Support as well as free access to the Knowledge base are included in the first year of Pix4Dmapper.

Pix4Dmapper is an integrated solution tailored to needs of industries such as Mining, Topography, Agriculture, Construction, Natural Resources Management and more. Output results can seamlessly be imported into any GIS and CAD software packages. True to its spirit of continuous innovations, Pix4Dmapper already includes industry-specific developments for both the Mining and Agriculture market that will be extended over the coming months.

Details of Pix4Dmapper and video as well as tutorial of the rayCloud are available at [www.pix4d.com](www.pix4d.com) as of January 13, 2014. Pix4D's extensive Knowledge base can be accessed at [http://support.pix4d.com](http://support.pix4d.com)
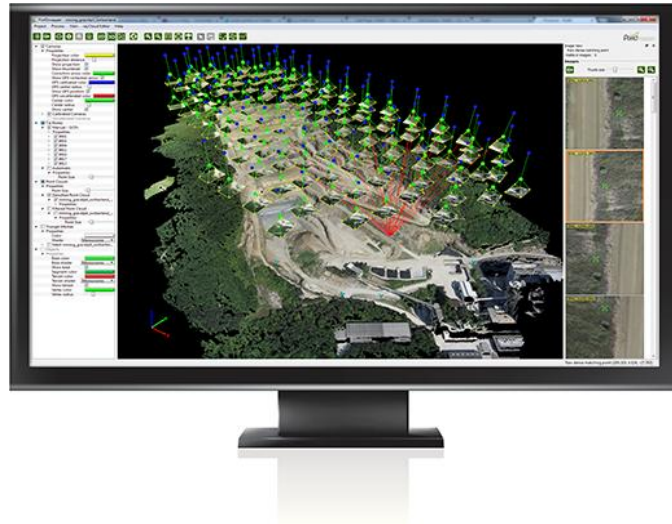
## ABOUT PIX4D

With over ten years of leading scientific research and founded in 2011, Pix4D has become the main provider and industry standard for professional unmanned aerial vehicle (UAV) processing software. Started as a spin-off of the EPFL (Ecole Polytechnique Fédérale de Lausanne) Computer Vision Lab in Switzerland, Pix4D is a dynamic and rapidly expanding company. The company has grown from three people in 2011 to six people in 2012 to twenty-five people today and has its offices at EPFL Innovation Park in Lausanne, Switzerland.

Pix4D is your solution to convert thousands of aerial images taken by lightweight UAV or aircraft into georeferenced 2D orthomosaics and 3D surface models and point clouds. With its advanced automatic aerial triangulation based purely on image content and unique optimization techniques, Pix4D enables civilian drones to become the next-generation mapping and surveying tool delivering survey-grade accuracy. Pix4D software offers up to centimeter-grade, LiDAR-like 3D precision, features a fully automatic workflow and can be used by anyone as it is very intuitive and easy to use. Assess, edit and improve your projects directly in the software using the integrated editing tools and seamlessly import your results into any professional GIS, CAD and traditional photogrammetry software package.

Pix4D's latest software package, Pix4Dmapper, introduces the rayCloud, a ground-breaking concept of multi-ray photogrammetry. The rayCloud is combining the 3D point cloud with the original input images for easy viewing as well as highly accurate semantic annotation and project improvement.

**For additional information as well as image material on Pix4Dmapper and the company, please contact Sonja Betschart at sonja@pix4d.com**