



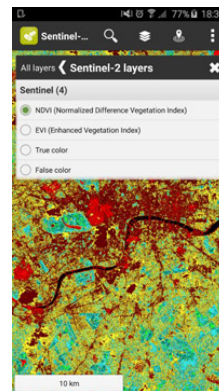
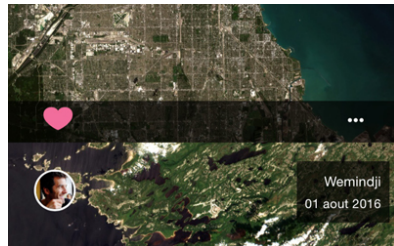
Developing a mobile application with Copernicus

Copernicus for Entrepreneurs and Developers



Mobile applications for citizens

- Copernicus often used in B2B
- Some companies have started offering B2C services, and provide citizens with information:
 - Wave – the city assistant (Subzero): air quality in the city
 - WeSenselt (University of Sheffield): flood monitoring
 - SnapPlanet: Social media network
 - Sentinel-2 NDVI Maps (Sinergise): vegetation monitoring



Use case: Wave – the city assistant



User
Uptake

- Navigating and real time information on air and water quality on your phone
- Available for Vienna
- Uses the following Copernicus data:
 - Water temperature
 - UV index
 - Ozone and pollen levels
- Natural language processing:
 - Where can I swim today?
 - What is the air quality today?



© subzero.eu software



User Uptake

How Wave got started

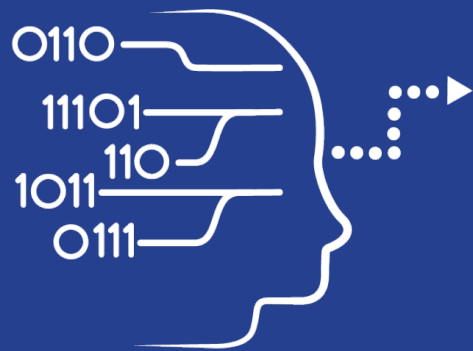
Copernicus for entrepreneurs



User
Uptake

The entrepreneurial journey of Wave

- iOS developer of many apps
- Winner of the 2015 ESA App challenge
 - Receives a support package, which can include tech support, design, marketing, ...
 - Has chance to develop their idea further in one of the ESA Business Incubation Centers (BICs) in Europe



User Uptake

Demonstration

Copernicus for Developers



User
Uptake

DEMO: INTRODUCTION

- Creating a web map or web app with open source and ESRI tools, and open Copernicus data
- Links:
 - QGIS: <http://qgis.org>
 - ESRI: <http://www.arcgis.com>
 - Copernicus Services:
 - CAMS: <http://atmosphere.Copernicus.eu> - <https://software.ecmwf.int/wiki/display/MACSUP/Accessing+public+CAM+MS+WMS+products#space-menu-link-content>
 - CLMS: <http://land.Copernicus.eu>
 - CMEMS: <http://marine.Copernicus.eu>

EXPLORE DATA

User Uptake

The screenshot shows the QGIS 2.18.15 desktop application. The main window displays a map of a region with various data layers. A 'Convert' dialog box is open in the center, with the following details:

- Source:** screen://
- Type:** screen
- Settings:**
 - Convert
 - Display the output
 - Deinterlace
- Profile:** Video - H.264 + MP3 (MP4)
- Dump raw input:**
- Destination:** Destination file: c:\users\annek\documents\infosessions\Bulgaria\Checkdata3.mp4

The dialog box has 'Start' and 'Cancel' buttons at the bottom. The background map shows a road network and green areas. The interface includes a top menu bar, a toolbar, a Browser Panel on the left, and a Layers Panel at the bottom left. The status bar at the bottom shows the coordinate (2575716, 5246292), scale (1:479,557), magnifier (100%), rotation (0.0), and render status.

ADD TO ONLINE APPLICATION

User Uptake

The screenshot displays a web browser window with the URL `annekatrien.maps.arcgis.com/home/webmap/viewer.html?useExisting=1`. The application interface includes a top navigation bar with 'Home' and 'My Map', and a search bar. A 'Convert' dialog box is open, showing the following details:

- Source: `screen://`
- Type: `screen`
- Settings: Convert, Display the output, Dewatermark
- Profile: `Video - H.264 + MP3 (MP4)`
- Destination file: `C:\Users\annek\Documents\Infosessions\Bulgaria\MobileApp.mp4`

The background map shows a geographical area with labels such as Karnobat, Burgas, and the Black Sea. The bottom of the screen shows a Windows taskbar with the time 2:17 PM on 10-Apr-18.