

Advanced systems for prevention and early detection of forest fires

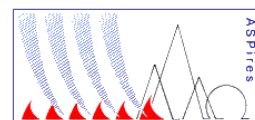
ASPIres

Advanced systems for prevention & early detection of forest fires

Images from: <https://unsplash.com>

End-user Application for Forest Fire Detection and Prevention

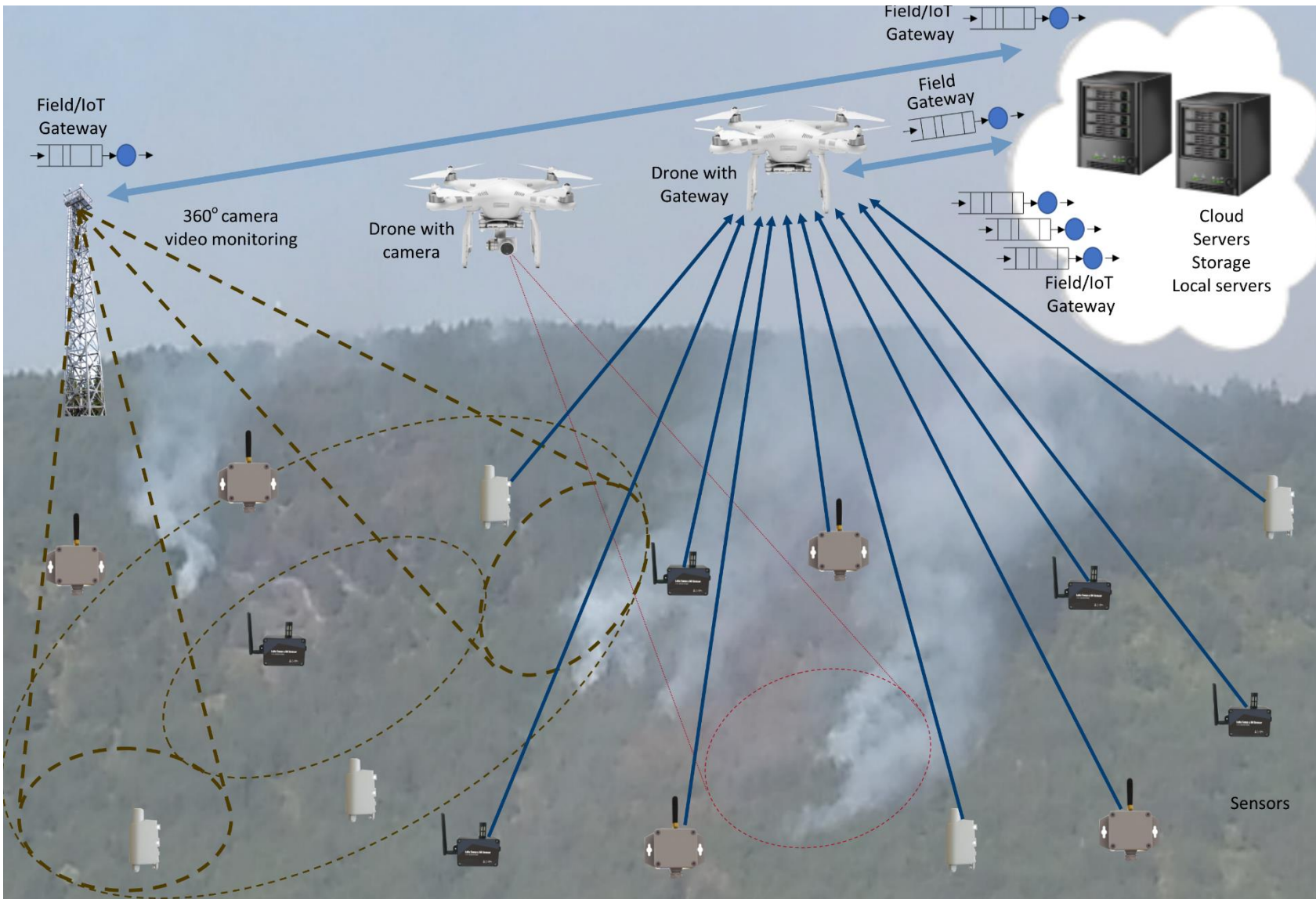
Peter PEINL, Micha HEIDERICH, Ivan CHISTOV,
Jugoslav ACKOSKI, Nikola KLETNIKOV,
Igorche KARAFILOVSKI, Nikola MANEV,
Rossy GOLEVA, Alexander SAVOV,
Ivelin ADREEV, Angelin NEDELICHEV



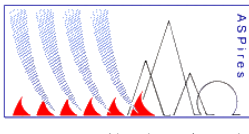
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ASPires components and equipment

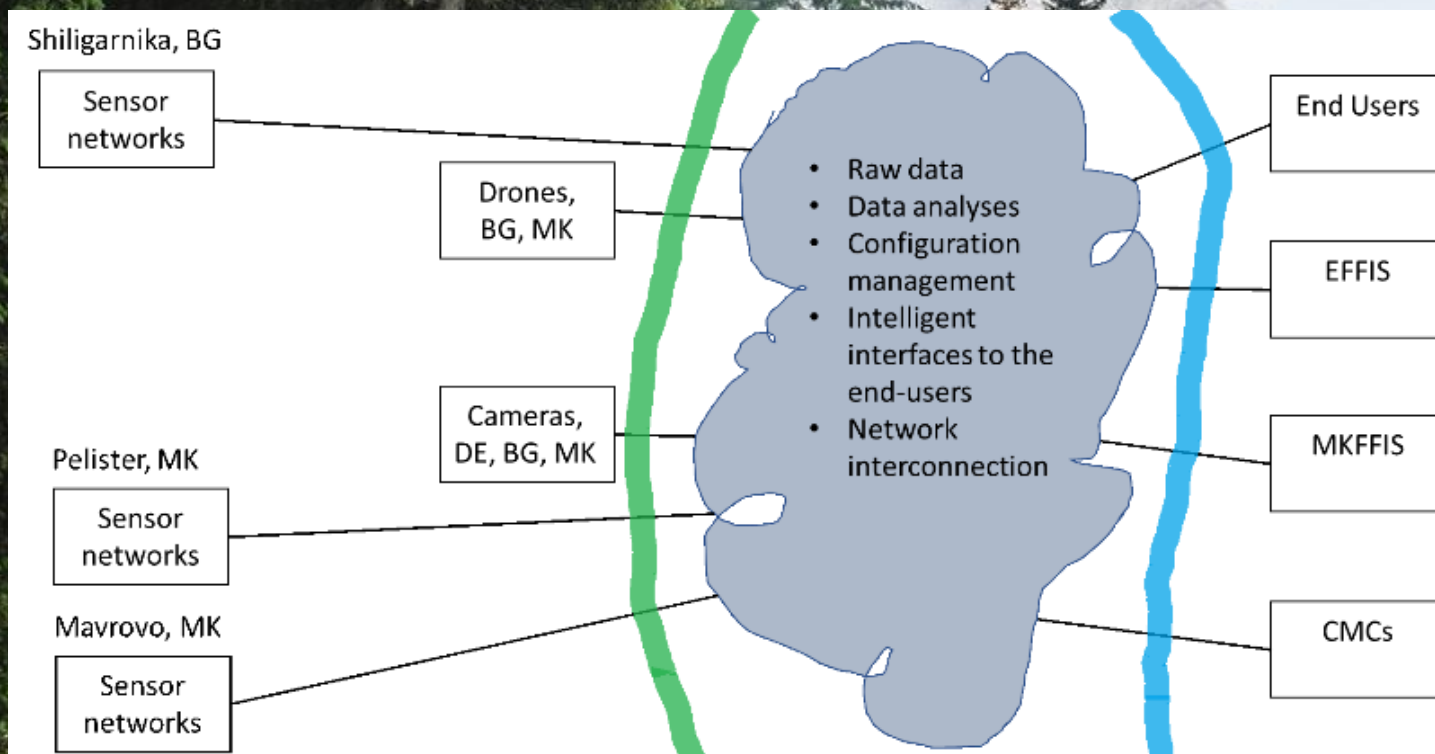


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ASpires software architecture



- South-bound cloud interface
 - Data ingestion
- Cloud
 - Data storage and archiven
 - Data aggregation
 - Data mining
- North-bound cloud interface
 - API for end-user applications
 - ASpires Web services

Ufulda Web application functionality

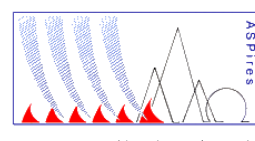
- Administration
- ASPIres region page (map based information)
 - User management
 - Profile management
 - Security, reliability
- Sensor information
 - Including statistics
- Camera information
- Alarms

Login screen

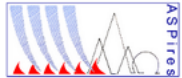
The screenshot shows a Mozilla Firefox browser window with the title "ASPIres - Mozilla Firefox". The address bar displays the URL "https://aspirez-pm.informatik.hs-fulda.de/login". The browser's menu bar includes "Datei", "Bearbeiten", "Ansicht", "Chronik", "Lesezeichen", "Extras", and "Hilfe". The page content features a blue header with the ASPires logo on the left, a language selector set to "DE", and links for "Anmelden" and "Registrieren" on the right. The main content area is a white "Login" form with the following fields and options:

- E-Mail Address:
- Password:
- Remember Me
- [Forgot Your Password?](#)

The footer of the page contains the following text and icons: "Impressum", "ASPIres Webseite", "Finanzierung", a green tree logo, the European Union flag, the logo of the "Воена Академија" (Military Academy) with the year "1995", the "Comjcon" logo, the "ICB SOFTWARE INNOVATION" logo, a logo for "NATIONAL CENTRE FOR FIRE SAFETY", and the ASPires logo with the tagline "Advanced systems for prevention and early detection of forest fires".



Language features



ASPIres Управление на потребители ▾ Регион ▾ Наблюдение ▾ Профил Помощ



BG ▾

@ Peter Peint ▾



Настройки

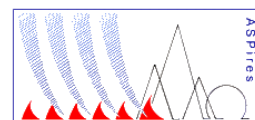
Запазване

Избор на регион

Изберете регион за да видите неговите налични данни от сензорите или снимки

Aspires Bulgaria (1 m²)

Запазване

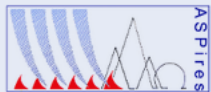


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Profile settings



Settings

Save

Choose a region

Choose a region to see available sensoric data and images

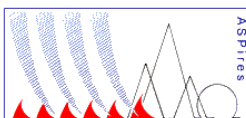
Aspires Bulgaria (3456 m²)

Choose a language

The chosen language will be used to display information throughout this page.

EN

Save



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ASpires region page (full screen)

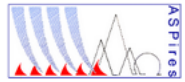
Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

ASpires x +

← → ↻ 🏠

🔒 <https://aspres-pm.informatik.hs-fulda.de> 77% 🔍 ⭐

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ASpires User-Management Region Monitoring Profile Help

EN Peter Peint



Karte Satellit

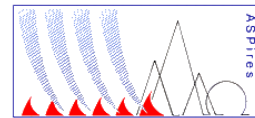
Bulgarisches

Hotel Tofana

Umbrella Bar

Chalin Valog

r. Glaznel

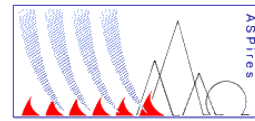
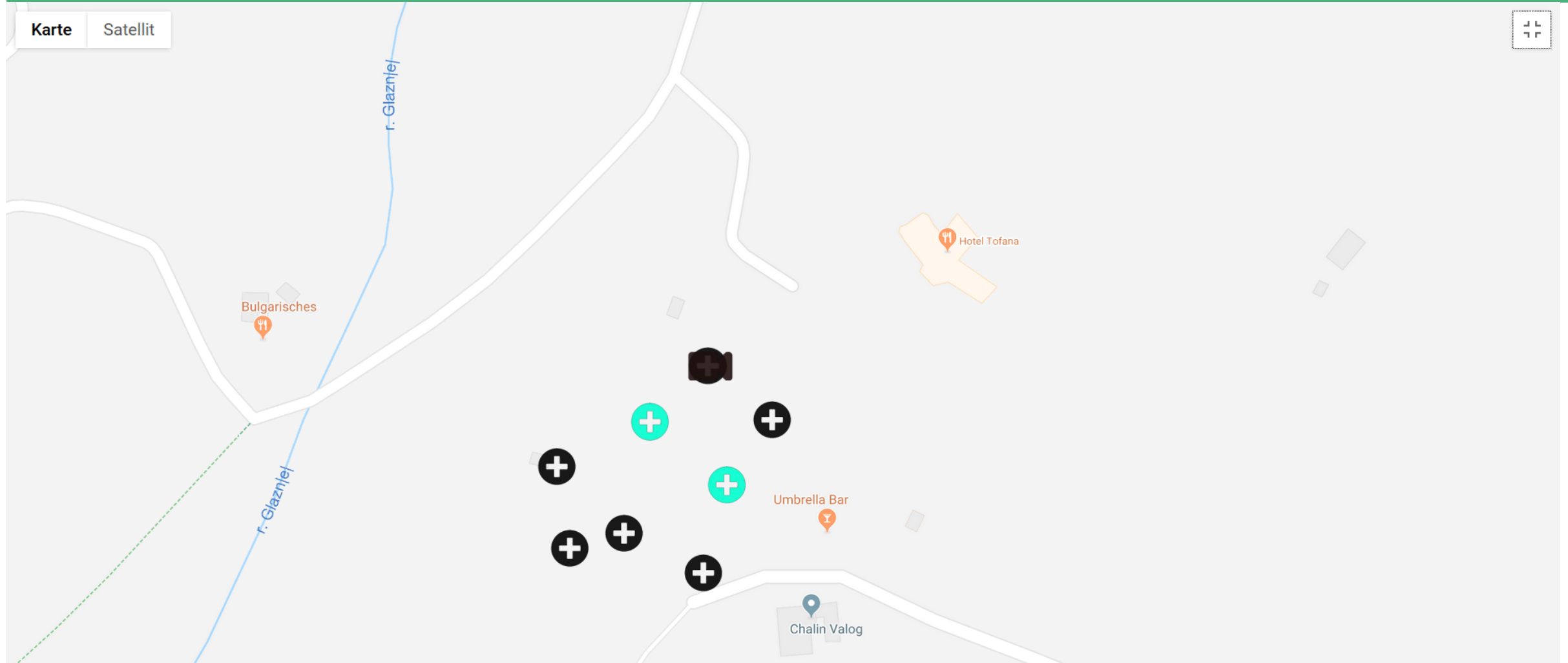


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ASPires region page (map only)

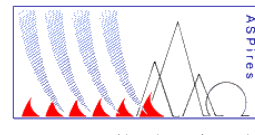
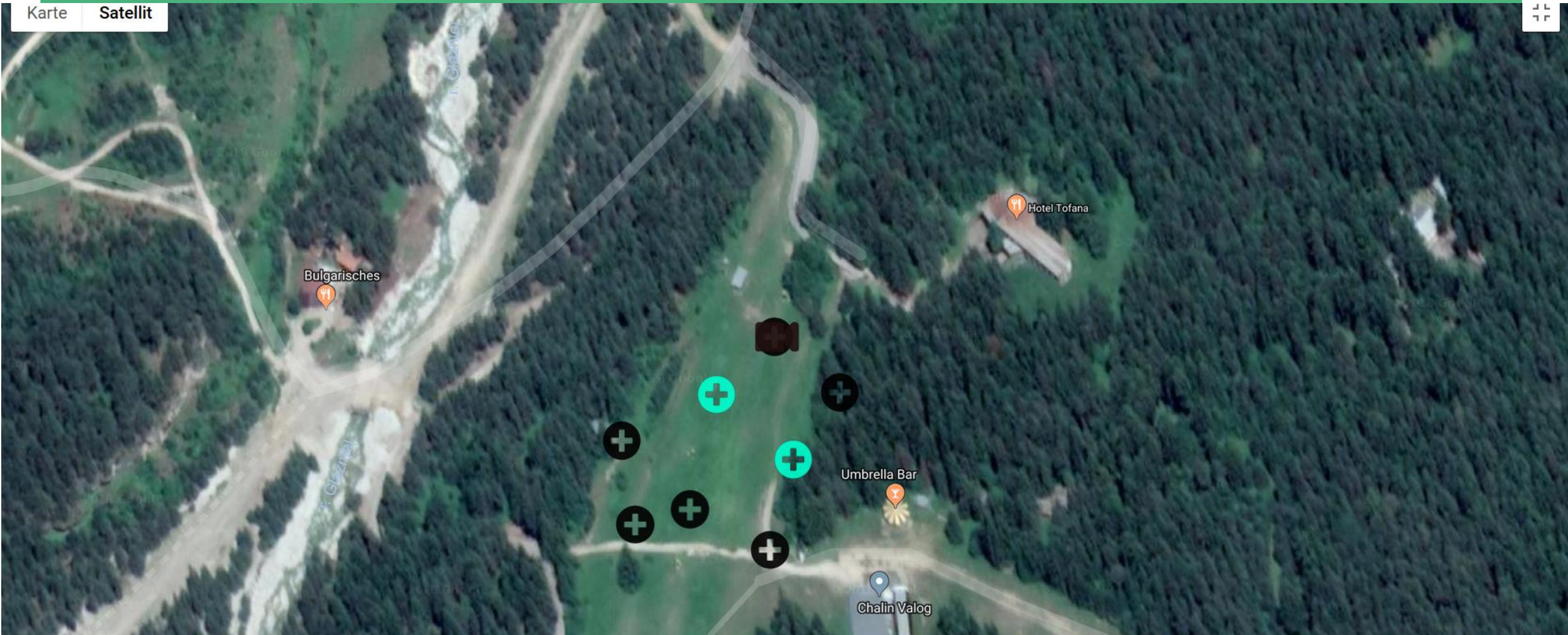


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ASPires region page (satellite view)

Karte Satellit

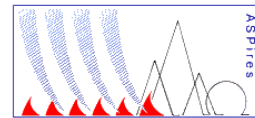
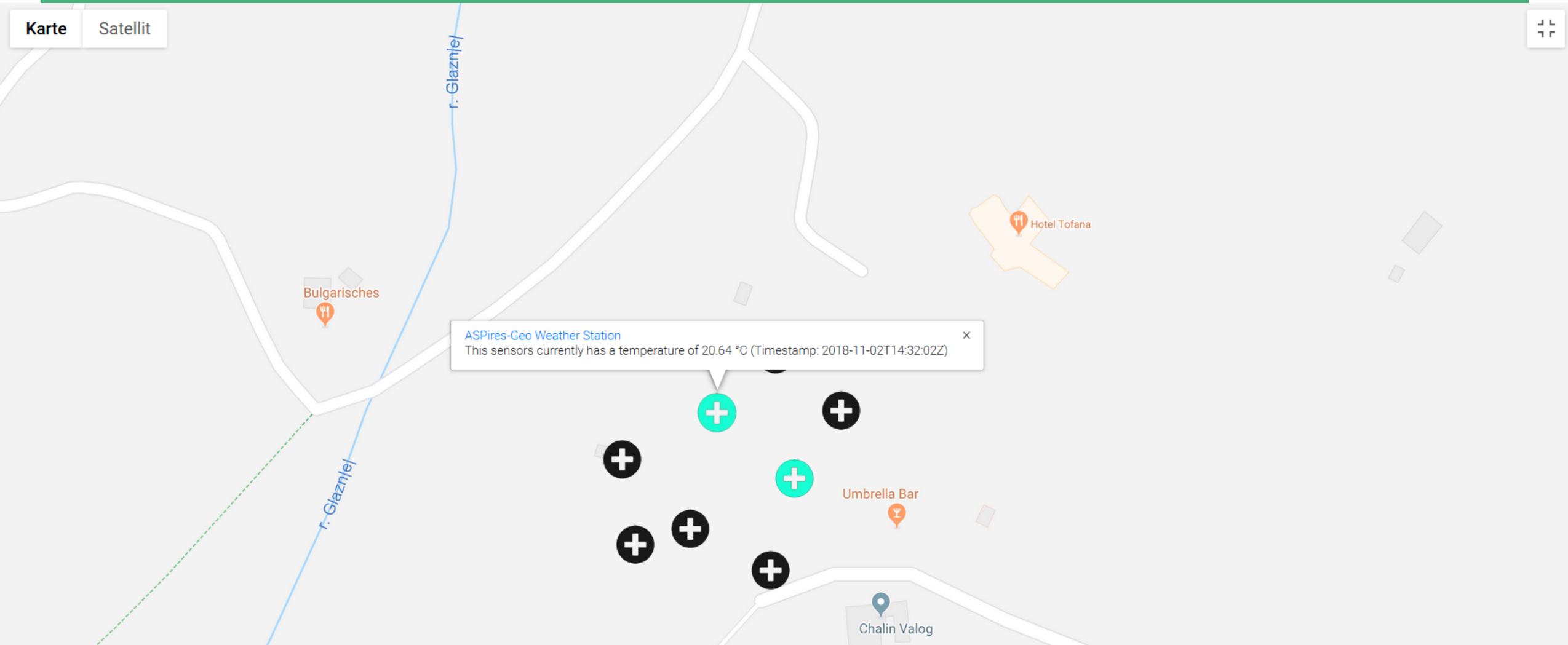


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Individual sensor readings

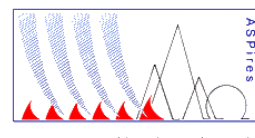


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Bansko fire drill area (real view)

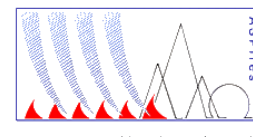


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Smoothed time-series sensor readings Temperature

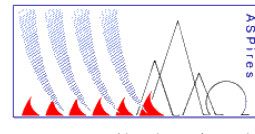
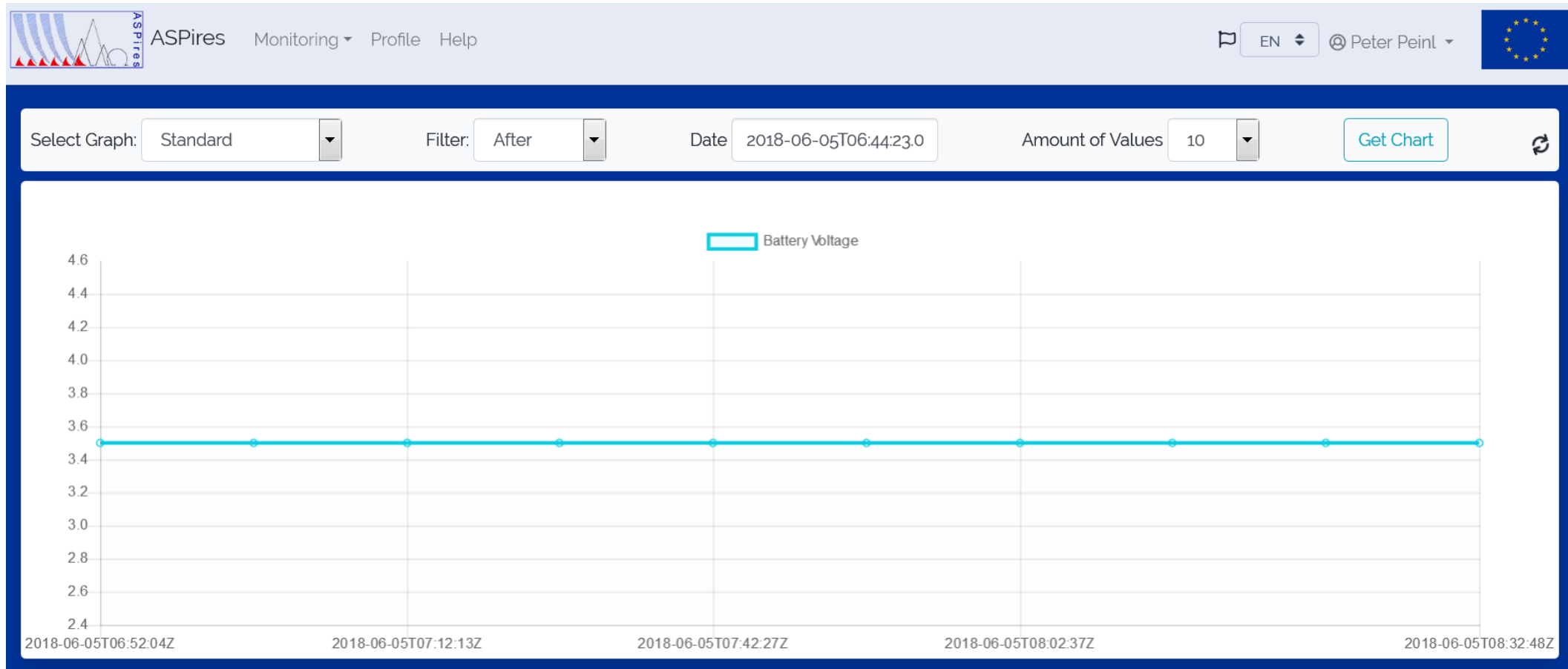


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Smoothed time-series sensor readings

Battery voltage



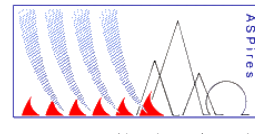
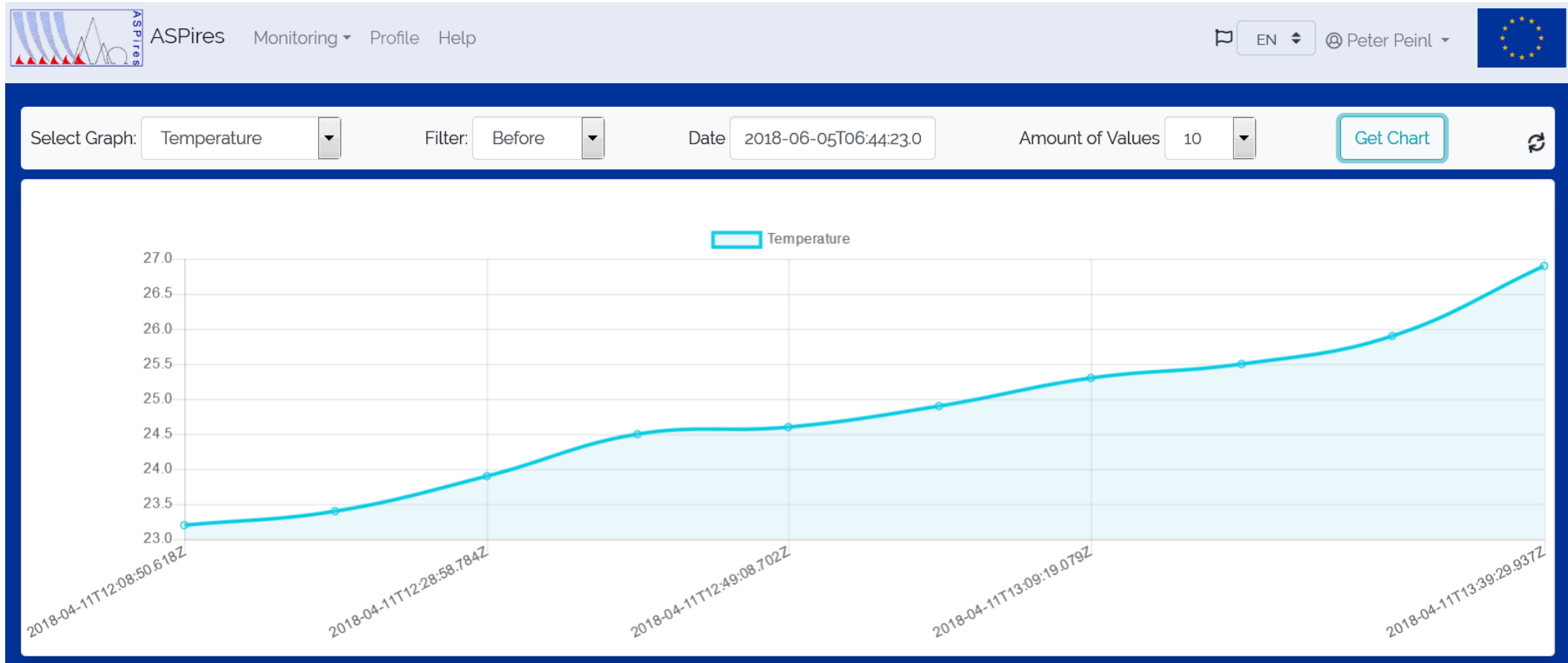
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Smoothed time-series sensor readings

Historical data

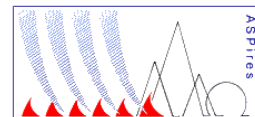


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Controlled fire preparation

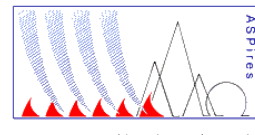


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Controlled fire

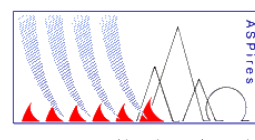


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Field gateway (data transmission into Cloud)

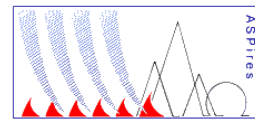


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Camera pictures (forest fire detected)

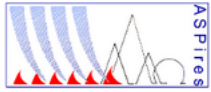


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Smoothed time-series sensor readings

Fine dust particles during fire drill



ASPIres User-Management ▾ Region ▾ Überwachen ▾ Profil Hilfe



DE ▾

@ Peter Peinl ▾



Diagramm wählen:

Standard ▾

Filter: Zwischen ▾

Datum von

2018-11-09T07:35:42.0C

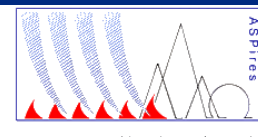
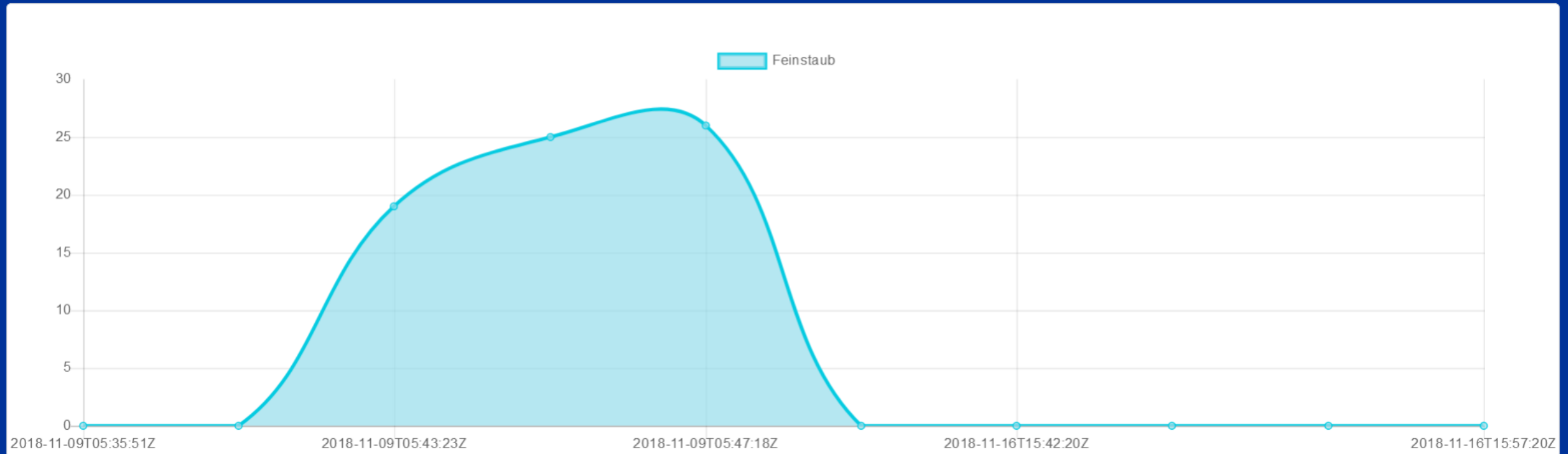
Datum bis

2018-11-09T10:55:42.0C

Anzahl Werte

10 ▾

Diagramm erstellen



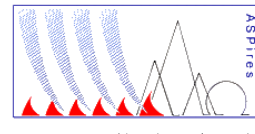
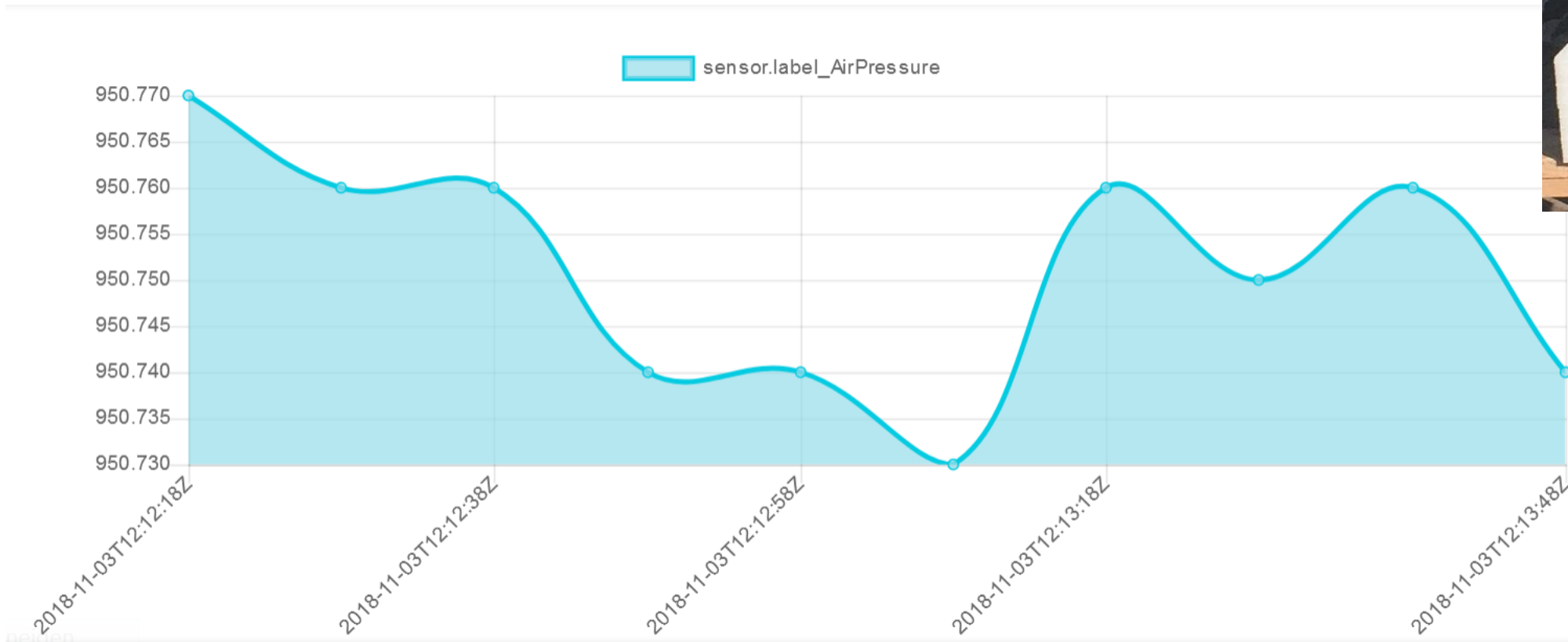
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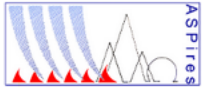
Air pressure (weather station)



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Main wind direction (weather station)



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DE ▾

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Diagramm wählen:

sensor.label_MainWindDirection ▾

Filter:

Letzte ▾

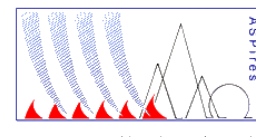
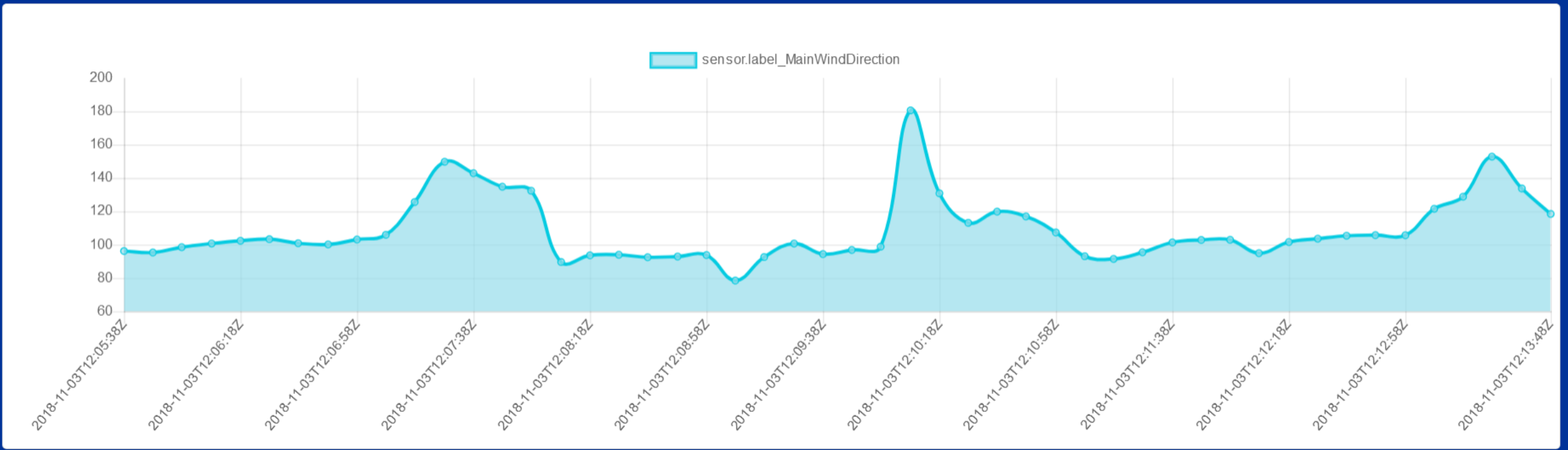
Datum

2018-11-03T12:13:57.000

Anzahl Werte

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Diagramm erstellen



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Conclusion

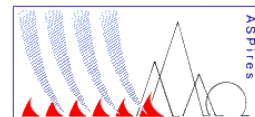
- Web application to enhance to capacity of CMCs for
 - the early detection and
 - prevention of forest fires
- End-users and use cases
- New services for existing CMIS, openness and easy integration
- End-to-end application
- Creation of European added value

Discussion

Thank you !

Questions ?

pe07pe@yahoo.de



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