

SmartEdge Agile Product Brief

AVNET[®] SILICA

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END TO END SOLUTION TO DELIVER AI AND SECURITY AT THE EDGE

The /SMARTEDGE AGILE meta-sensor, together with the Brainium IoT platform, form part of an end to end IoT solution that delivers AI and Security at the Edge. This hardware and software combination introduces a new Meta sensing category in the IoT market. The key advantage of this eco-system is to use the same solution for all stages of the IoT project – from proof of concept up to Industrialization.

Brainium accelerates delivery of industrialized IoT solutions, with higher performance, security and scalability, while significantly reducing costs.

The /SMARTEDGE AGILE meta-sensor is CE/FCC certified, and both hardware and software can be used directly for industrialized IoT projects. The hardware is designed to allow a wide range of sensor and connectivity boards.

The platform is optimized for Microsoft Azure Cloud but can run on any public or private Cloud services. Best in class network security has been built in, based on TLS security with ECC certificate protecting you, your network, and your reputation from attack. Brainium is proven, robust and modular for faster and easier development and deployment.

With this hardware and software combo, you can launch IoT projects up to three times faster than with other platforms.



3 times faster delivery



AI at the Edge



End-to-end security



Proven and mature AI



Gateway agnostic



Cloud agnostic

USE THE SAME SOLUTION FOR ALL STAGES OF YOUR IOT PROJECT BUILD YOUR OWN DEVICE BASED ON THE BRAIN



POC

Demonstrate to others that the concept work using Smartedge Agile.

POV

Scale the concept to prove the business model with a ref design if needed.

PILOT

Run your pilot to refine any operational issues using the Brain of Smartedge Agile.

PROD

Roll out your project with the necessary hardware (Brainium STM32 based) and what you built so far.

/SMARTEDGE AGILE

ECOSYSTEM AND ENABLEMENT

- Brainium is your web-based development and visualization environment which is used from Edge to Cloud, and throughout your entire IoT project
- Build all kinds of projects from scratch, and easily create attractive user dashboards with widgets based project
- Easily export your data for BI
- Be confident that your data is yours

SOFTWARE AND TOOLS

- Brainium software license included
- Six months of Microsoft Azure consumption included to get you started

FLEXIBLE AND SCALABLE

- Built in sensors: 3-axis accelerometer, pressure, temperature, microphone, proximity, light, humidity, magnetometer and gyroscope
- Expandable through USB port
- Scale your project from one sensor to many sensors

AI STUDIO

- Zero coding approach to train and deploy AI models
- Motion and Vibration AI included
- Edge computing: AI rule and set of data rules at edge level

AI AT THE EDGE

AI is running at the edge, saving energy, bandwidth and time to react



1 Build the data set 2 Train and test the model 3 Deploy the model to the edge

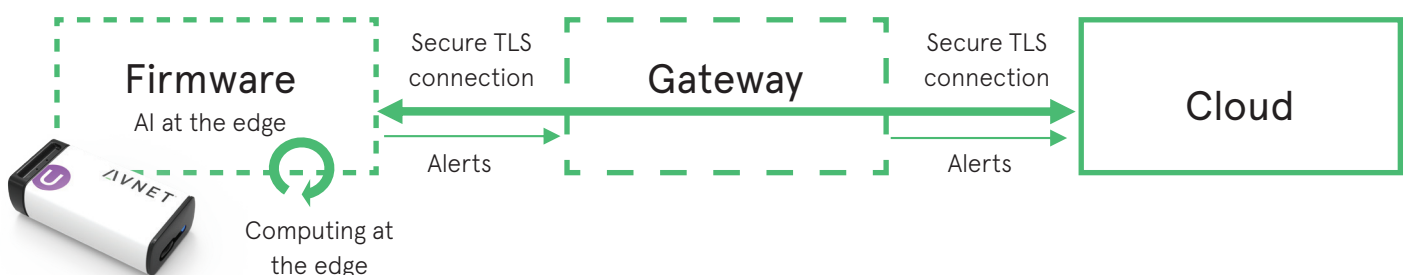
EXAMPLE APPLICATIONS

MARKET	USE CASE
Utilities, Plant, Machinery	Predictive maintenance of pumps, generators and other remote mechanical systems.
Elevators, Escalators, Travelators	Predictive maintenance, usage patterns and demand planning
Livestock Management	Monitoring of complex motion, as well as temperature, humidity and other parameters can provide livestock wellbeing insights

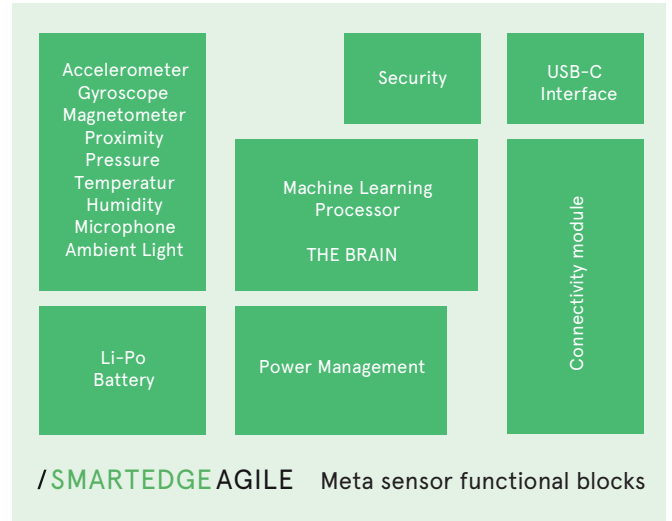
META SENSING AND PORTAL FEATURES

META SENSING FEATURES	BRAINIUM PORTAL FEATURES
Real time visualisation of Agile data: <ul style="list-style-type: none"> • Acceleration • Air humidity • Angular velocity • Atmospheric pressure • Infrared lightness • Magnetic field • Proximity Distance • Sound Level • Temperature • Visible lightness • World acceleration 	Device management (firmware updates) and Device provisioning
Real time visualisation of Agile State: <ul style="list-style-type: none"> • Motion detected (history of motion, last detected motion, count of detected motions,...) • Alerts from rules • Battery State 	Dashboard with widget display of data (adding, removing, resizing, moving of widgets)
Data export of recorded data session in csv	Smart app: change Portal theme and logo
	API to read data from Portal

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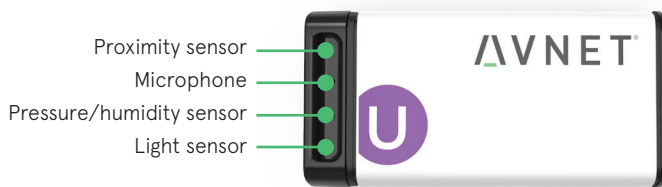


SIZE	32mm x 17mm x 64mm (w x h x l)
WEIGHT	29g
OPERATING TEMPERATURE RANGE	-20°C to +60° C
POWER SUPPLY	Powered by USB connector, or internal rechargeable Li-Poly battery
BATTERY CAPACITY	260mAh
ACCELERO/GYRO Acceleration measurement range Angular measurement range	±2/±4/±8/±16 g full scale ±125/±250/±500/±1000/±2000 degree per second (dps) full scale
MAGNETOMETER Magnetic dynamic range Sensitivity	±50 Gauss 1.5 mGauss/LSB ± 7%
PRESSURE Absolute pressure range Pressure output data rate Pressure accuracy	260 to 1260 hPa 75 readings per second ±0.1 hPa after calibration, or ±1 hPa without calibration
TEMPERATURE/HUMIDITY Relative humidity range Relative humidity accuracy Temperature measurement range Temperature accuracy	0 to 100% rH ± 3.5% rH inside 20 to +80% rH range Within Agile operating temperature range ± 0.5 °C, 15 to +40 °C
MEMS MICROPHONE Acoustic overload point Signal-to-noise ratio: Sensitivity:	120 dB SPL 61 dB - 26 dBFS
AMBIENT LIGHT SENSOR Channels Irradiance responsivity (integration time = 400ms, ALS gain = 16x)	2 channels; visible and IR light - Visible light (2700K): 363 counts (typ) - IR light (950nm): 352 counts (typ)
TIME OF FLIGHT SENSOR Distance measuring range Maximum measurement rate Typical full field-of-view	0 to 400 cm Up to 50 measurements/sec 27° field of view



HIGHLIGHTS

FEATURES	BENEFITS
Agile meta sensor	Low power meta-sensor is designed to be located at the Edge of an IoT network. It has 9 built-in sensors types, which are used both to learn and build a model, and for ongoing monitoring. Default back-end connectivity is BLE 5, with other connecting options, including LoRaWAN and cellular (planned).
Integrated BLE 5.0 wireless radio	For flexible, wireless communication via a gateway to the Cloud.
Internal rechargeable Li-Poly battery	For durable, autonomous operation.
Secure element	Best-in-class security, securing edge to cloud, included out-of-the-box



ORDERING INFORMATION

For more product information, please visit:
avnet-silica.com/smartedgeagile

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BRAINIUM

/ SMARTEDGE AGILE

Offices

AUSTRIA

Vienna
Phone: +43 186 642 300
Fax: +43 186 642 350
wien@avnet.eu

BELGIUM

Merelbeke
Phone: +32 9 210 24 70
Fax: +32 9 210 24 87
gent@avnet.eu

BULGARIA

Sofia
sofia@avnet.eu

CZECH REPUBLIC (SLOVAKIA)

Prague
Phone: +420 234 091 031
Fax: +420 234 091 030
praha@avnet.eu

DENMARK

Herlev
Phone: +45 432 280 10
Fax: +45 432 280 11
herlev@avnet.eu

ESTONIA (LATVIA, LITHUANIA)

Pärnu
Phone: +372 56 637737
paernu@avnet.eu

FINLAND

Espoo
Phone: +358 207 499 200
Fax: +358 207 499 280
helsinki@avnet.eu

FRANCE (TUNISIA)

Cesson Sévigné
Phone: +33 299 838 485
Fax: +33 299 838 083
rennes@avnet.eu

Illkirch
Phone: +33 390 402 020
Fax: +33 164 479 099
strasbourg@avnet.eu

Massy Cedex
Phone: +33 164 472 929
Fax: +33 164 470 084
paris@avnet.eu

Toulouse
Phone: +33 05 62 47 47
toulouse@avnet.eu

Vénissieux Cedex
Phone: +33 478 771 360
Fax: +33 478 771 399
lyon@avnet.eu

GERMANY

Berlin
Phone: +49 30 214 882 0
Fax: +49 30 214 882 33
berlin@avnet.eu

Freiburg
Phone: +49 761 881 941 0
Fax: +49 761 881 944 0
freiburg@avnet.eu

Hamburg
Phone: +49 40 608 235 922
Fax: +49 40 608 235 920
hamburg@avnet.eu

Holzwickede
Phone: +49 2301 919 0
Fax: +49 2301 919 222
holzwickede@avnet.eu

Lehrte
Phone: +49 5132 5099 0
hannover@avnet.eu

Leinfelden-Echterdingen
Phone: +49 711 782 600 1
Fax: +49 711 782 602 00
stuttgart@avnet.eu

Leipzig
Phone: +49 34204 7056 00
Fax: +49 34204 7056 11
leipzig@avnet.eu

Nürnberg
Phone: +49 911 24425 80
Fax: +49 911 24425 85
nuernberg@avnet.eu

Pöing
Phone: +49 8121 777 02
Fax: +49 8121 777 531
muenchen@avnet.eu

Wiesbaden
Phone: +49 612 258 710
Fax: +49 612 258 713 33
wiesbaden@avnet.eu

HUNGARY

Budapest
Phone: +36 1 43 67215
Fax: +36 1 43 67213
budapest@avnet.eu

ITALY

Cusano Milanino
Phone: +39 02 660 921
Fax: +39 02 660 923 33
milano@avnet.eu

Firenze
Phone: +39 055 428 2301
Fax: +39 055 431 035
firenze@avnet.eu

Modena
Phone: +39 059 348 933
Fax: +39 059 344 993
modena@avnet.eu

Padova
Phone: +39 049 807 368 9
Fax: +39 049 773 464
padova@avnet.eu

Rivoli
Phone: +39 011 204 437
Fax: +39 011 242 869 9
torino@avnet.eu

Roma Tecnocittà
Phone: +39 06 412 319 10
Fax: +39 06 413 116 1
roma@avnet.eu

NETHERLANDS

Breda
Phone: +31 765 722 700
Fax: +31 765 722 707
breda@avnet.eu

NORWAY

Asker
Phone: +47 667 736 00
Fax: +47 667 736 77
asker@avnet.eu

POLAND

Gdansk
Phone: +48 58 307 81 51
Fax: +48 58 307 81 50
gdansk@avnet.eu

Katowice
Phone: +48 32 259 50 10
Fax: +48 32 259 50 11
katowice@avnet.eu

Warszawa
Phone: +48 222 565 760
Fax: +48 222 565 766
warszawa@avnet.eu

PORTUGAL

Vila Nova de Gaia
Phone: +35 1 223 779 502
Fax: +35 1 223 779 503
porto@avnet.eu

ROMANIA (BULGARIA)

Bucharest
Phone: +40 21 528 16 32
Fax: +40 21 529 68 30
bucuresti@avnet.eu

RUSSIA (BELARUS, UKRAINE)

Moscow
Phone: +7 495 737 36 70
Fax: +7 495 737 36 71
moscow@avnet.eu

Saint Petersburg
Phone: +7 812 245 1571
stpetersburg@avnet.eu

SLOVAKIA

Bratislava
Phone: +421 232 242 211
Fax: +421 232 242 210
bratislava@avnet.eu

SLOVENIA (BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, MONTENEGRO, SERBIA)

Ljubljana
Phone: +386 156 097 50
Fax: +386 156 098 78
ljublana@avnet.eu

SPAIN

Barcelona
Phone: +34 933 278 530
Fax: +34 934 250 544
barcelona@avnet.eu

Galdàcano. Vizcaya
Phone: +34 944 572 777
Fax: +34 944 568 855
bilbao@avnet.eu

Las Matas
Phone: +34 913 727 100
Fax: +34 916 369 788
madrid@avnet.eu

SWEDEN

Sundbyberg
Phone: +46 8 587 461 00
Fax: +46 8 587 461 01
stockholm@avnet.eu

SWITZERLAND

Rothrist
Phone: +41 62 919 555 5
Fax: +41 62 919 550 0
rothrist@avnet.eu

TURKEY (GREECE, EGYPT)

Kadikoy Istanbul
Phone: +90 216 528 834 0
Fax: +90 216 528 834 4
istanbul@avnet.eu

UNITED KINGDOM (IRELAND)

Berkshire
Phone: +44 1628 512 900
Fax: +44 1628 512 999
maidenhead@avnet.eu

Bolton
Phone: +44 1204 547 170
Fax: +44 1204 547 171
bolton@avnet.eu

Bucks. Aylesbury
Phone: +44 1296 678 920
Fax: +44 1296 678 939
aylesbury@avnet.eu

Stevenage, Herts. Meadway
Phone: +44 1438 788 310
Fax: +44 1438 788 250
stevenage@avnet.eu

ISRAEL

Tel-Mond
Phone: +972 (0)9 7780280
Fax: +972 (0)3 760 1115
avnet.israel@avnet.com

SOUTH AFRICA

Cape Town
Phone: +27 (0)21 689 4141
Fax: +27 (0)21 686 4709
sales@avnet.co.za

Durban
Phone: +27 (0)31 266 8104
Fax: +27 (0)31 266 1891
sales@avnet.co.za

Johannesburg
Phone: +27 (0)11 319 8600
Fax: +27 (0)11 319 8650
sales@avnet.co.za



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