# BeanAir
## WIRELESS IIOT SENSORS

## 2.4GHz® PRODUCT LINE

## WIRELESS IOT SENSORS SUPERVISION SOFTWARE

FEATURED VIDEO

FFT ( FAST FOURIER TRANSFORM) MODULE

2.4GHZ USER GUIDE

OPC USER GUIDE

# SUMMARY

- Overview and Main features
- A core fully dedicated to wsn supervision
- Real time & fully integrated data base
- Sophisticated and intuitive GUI
- Active supervision & monitoring system
- Beanscape manager : cost-free & eco-friendly wsn configurator
- Beanscape premium : connect several wsn to the same computer
- Beanscape premium+: Connect our wireless sensor networks to a third-party software
- Beanscape Multiview : multi-user access
- Your vibration analysis report at a glance
- Software versions
- Minimum system requirements
- How the Beanscape licence is working ?

- Contact us

## OVERVIEW AND MAIN FEATURES :

The BeanScape® 2.4GHz is a real time WSN supervision and control monitor. It allows the user to monitor and operate in real time BeanAir® WSN. The BeanScape® 2.4GHz is also equipped with a smart expert system that allows users to interpret elements such as data acquisition or alarms related to the sensor network.

BeanScape® 2.4GHz comes with outstanding features:

• Supervision software fully dedicated to Beanair® Wireless Sensor Networks
• Fully integrated Wireless Sensor Networks maintenance tool
• Easy integration to a third-party supervision software thanks to our OPC server (BeanScape® 2.4GHz Premium+ and BeanScape® 2.4GHz Multiview)
• User friendly and highly adaptable to user's environment
• Highly intuitive and easy to use GUI (Graphical User Interface)
• Real time integrated database
• For user working on building and ground vibration (Ref. sensor: BeanDevice® AX-3D and BeanDevice® AX-3D Xrange), the BeanScape® (except Manager and Basic) provides advanced vibration analysis tools:

- Real-Time vibration and Velocity display
- Advanced vibration analysis tool: FFT, PPV (Peak Particle Velocity), Velocity
- Automatic FFT (with PPV values) and Velocity reports (meeting the DIN4150-3 standard)
- Alarm and reports notifications by email when a trigger is reached
• Simultaneous Multi-WSN handling (can be connected to several BeanGateway®)
• Highly customizable data panel board
• No hidden fees, and no specific subscription

Several versions are available:

• BeanScape® 2.4GHz Manager: free of cost, no real-time measurement display
• BeanScape® 2.4GHz Basic: can manage 1 wireless sensor network, real-time measurement display
• BeanScape® 2.4GHz Premium: same features than BeanScape® 2.4GHz Basic, can manage several wireless sensor networks, advanced vibration analysis tools (Real-Time Velocity and FFT, PPV values);
• BeanScape® 2.4GHz Premium+: same features than BeanScape® 2.4GHz Premium and integrates a *.NET OPC DA server for an easy integration with a third-party supervision software.
• BeanScape® 2.4GHz Multiview:  same features than BeanScape® 2.4GHz Premium+ and multi-user access

# WIRELESS IOT SENSORS SUPERVISION SOFTWARE

## A CORE FULLY DEDICATED TO WSN SUPERVISION :



## REAL TIME AND FULLY INTEGRATED DATA BASE :

The real time database records high sampling measurement plots and WSN activities with a small memory footprint :
• No installation is needed
• Data backup (activable/disactivable functionality).
• Easily exportable data in CSV format (Access, Excel, Matlab, Labview...).
• WSN mapping can be exported and imported on differents BeanScape® software

## SOPHISTICATED AND INTUITIVE GUI   :

The BeanScape® 2.4GHz offers a complete and intuitive real time view of our Wireless Sensor Networks :
• Detailed and efficient viewset representing different alarm levels (4 different customizable alarm thresholds high/low)
• Automatic alarm diagnostics generated by BeanAir®'s expert system
• Highly customizable GUI allowing the user to name and rename components and to associate metrics (in case of
sensors)
• Highly configurable data panel and multi-chart board.

# WIRELESS IOT SENSORS SUPERVISION SOFTWARE

## ACTIVE SUPERVISION AND MONITORING SYSTEM :



The BeanScape® 2.4GHz is an active monitoring system which allows a remote configuration of each and every component part of the wireless sensor network :

• Data acquisition configuration: Data acquisition mode, sampling frequency and duration, sleeping mode cycle.
• Alarm notification by email when a measurement threshold is reached
• Power supply management
• Switch to manual or automatic radio channel with «Energy Scan» functionality (automatic setting to the best available radio channel)
• Sensor calibration interface
• Radio transmission configuration
• Global or partial network maintenance
• Visualization of all the information relative to the wireless sensor networks performance: radio signal quality, PER ( Packet Error Rate)
• Battery diagnosis: battery level,  battery voltage internal temperature,
• FFT (Fast Fourier transform) waveform analysis module

# WIRELESS IOT SENSORS SUPERVISION SOFTWARE

## BEANSCAPE® 2.4GHZ MANAGER :

### COST-FREE & ECO-FRIENDLY WSN CONFIGURATOR :

BeanScape® Manager is suitable for users looking for configuring Beanair WSN:
• Fully integrated Wireless Sensor Networks Maintenance and Installation Tool
• User Friendly and highly adaptable to user's environment
• Real-time integrated Database
• ModBus TCP/RS232/RS485 configurator (available only for the BeanGateway® ModBus version)
• Data logging on CSV file
The BeanScape® Manager is free of cost, and already includes 1 month of technical support.
User looking for real-time data visualization, multi-WSN supervision software, longer technical support and a full compatibility with a third-party supervision software, can migrate to the BeanScape® Basic, Premium and Premium+ versions.

## BEANSCAPE® 2.4GHZ PREMIUM :

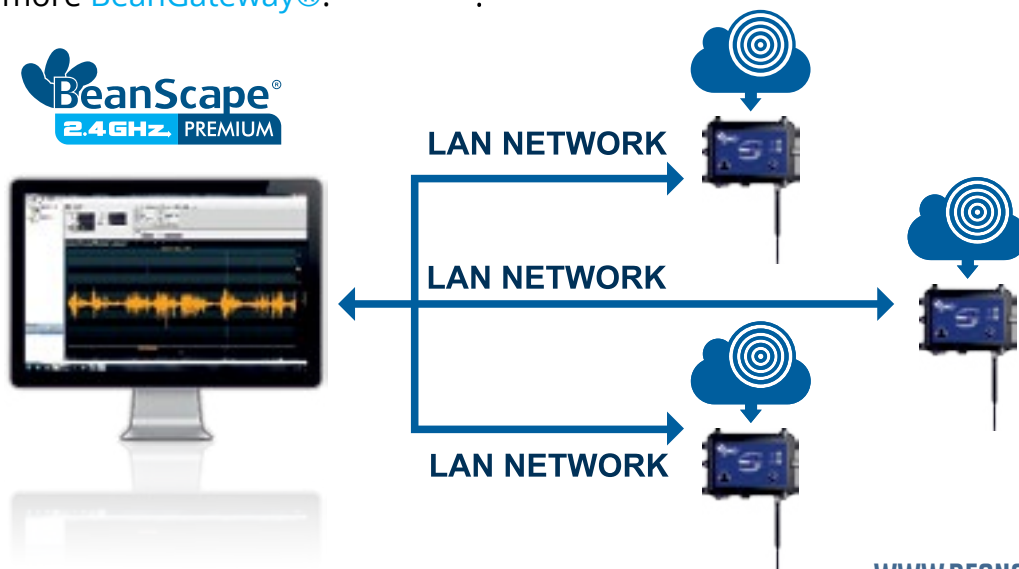### CONNECT SEVERAL WSN TO THE SAME COMPUTER :

With the BeanScape® Premium you will be able to connect as many BeanGateway® as your computer can handle at
the same time.
A BeanGateway® can manage up to 50 BeanDevice®, depending on the product range and measurement frequency.
BeanScape® Premium allows you to cover a large field with a single PC, software and gateway.
Multi client TCP/IP server included in BeanScape® Premium add-on was designed to offer you the best performances
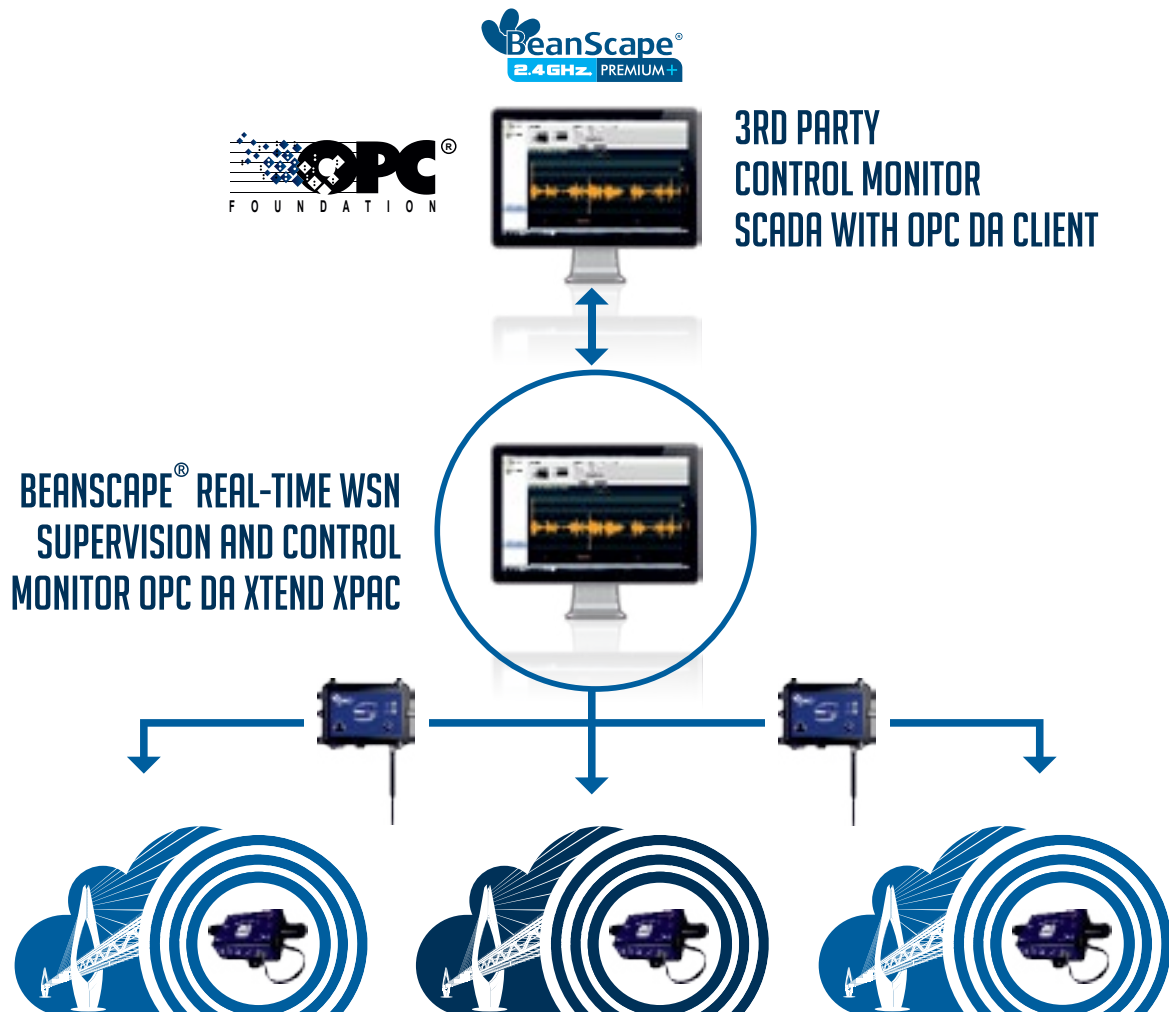with one or more BeanGateway®.                .

# BEANSCAPE® 2.4GHZ PREMIUM + :

## CONNECT OUR WIRELESS SENSOR NETWORKS TO A THIRD-PARTY SOFTWARE :

The BeanScape® Premium+ integrates an OPC DA server (Data Access).
OPC DA is particularly well suited for real time measurement and data sharing. Each data/measurement can be associated to a tag or its attributes and shared with one or several OPC clients.
Therefore, the BeanScape® Premium+ opens up to many third party applications (SCADA, web portals etc..). Our OPC server is DA 2, DA 2.5 and DA 3 compliant and allows two different presentations. The first is a compact presentation of the sensor tree, presenting all the secondary attributes under the form of attributes. The second is an extended presentation of the sensor tree where each secondary attribute is presented by an OPC item/tag rather than an attribute.
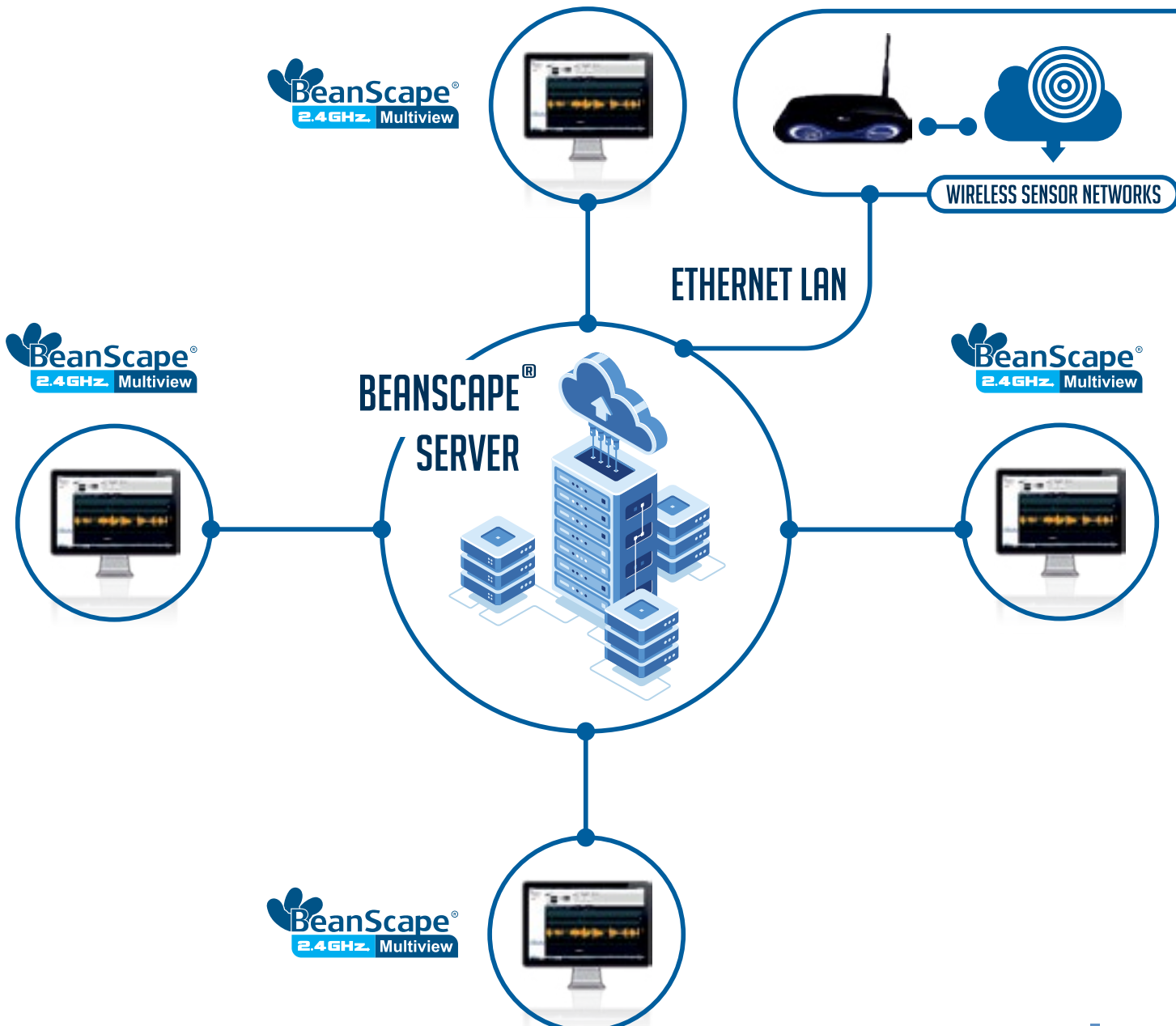
3RD PARTY
CONTROL MONITOR
SCADA WITH OPC DA CLIENT

BEANSCAPE® REAL-TIME WSN
SUPERVISION AND CONTROL
MONITOR OPC DA XTEND XPAC

# BEANSCAPE® 2.4GHZ MULTIVIEW :

## MULTI-USER ACCESS :

BeanScape® Multiview offers a multi-user access to Beanair Wireless Sensor Networks:
• A server version of the BeanScape® can be hosted on a PC with administrator rights to configure remotely Beanair WSN
• Several BeanScape® clients can be deployed
on different PC without administrators rights,
user can only visualize & backup all the measurements data transmitted by wireless sensors

# YOUR VIBRATION ANALYSIS REPORT AT A GLANCE :

For user working on building and ground vibration, the BeanScape® (except manager) provides advanced vibration analysis tools:
• Vibration analysis tools: FFT, PPV (Peak Particle Velocity), Velocity
• Automatic report meeting the DIN4150-3 standard (Excel, PDF and Word)

DIN4150-3 specifies a method of measuring and evaluating the effects of vibration on structures designed primarily for static loading. It applies to structures which do not need to be designed to specific standards or codes of practice as regards dynamic loading.
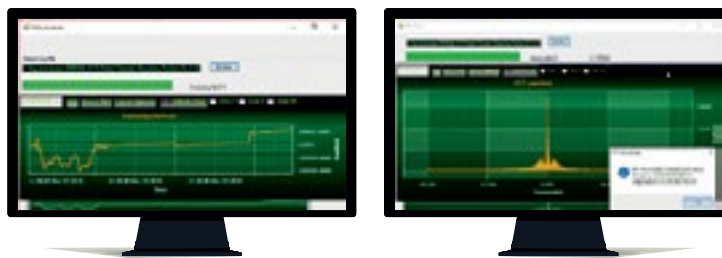The report is generated with the following information:
• Building Type,
• Pipeline Material,
• Velocity Average,
• Sampling Rate,
• Analyze Duration,
• LTVEE: Long Term Vibration Evaluation Effect
• LTEBP: Long Term Effect on Buried Pipework
• STEBP: Short Term Effect on Buried Pipework
• STVEE: Short Term Effect Evaluation

## DIN 4150-3 REPORT

| | |
|---|---|
| Building Type | Commercial |
| Pipeline Material | Steel |
| Velocity Average (mm/s) | -2657,82710089696 |
| Sampling Rate (hz) | 200 |
| Analyze Duration( hh:mm:ss) | 00:33:06.4250000 |
| LTVEE | NOK |
| LTEBP | NOK |
| Velocity Frequency (hz) | 0,1953125 |
| Maximum Velocity (mm/s) | 127029.276017999 |
| STEBP | NOK |
| STVEE | OK |

**KEYWORD**

| | | **MEANING** |
|---|---|---|
| LTVEE | Long Term Vibration Evaluation | |
| LTEBP | Long Term Effect on Buired Pipeework | |
| STEBP | Short Term Effect on Buired Pipeework | |
| STVEE | Short Term Effect Evaluation | |



Product specifications are subject to change without notice. Contact Beanair for latest specifications.

## SOFTWARE VERSIONS :

| | BeanScape® 2.4GHz MANAGER | BeanScape® 2.4GHz BASIC | BeanScape® 2.4GHz PREMIUM | BeanScape® 2.4GHz PREMIUM+ | BeanScape® 2.4GHz Multiview |
|---|---|---|---|---|---|
| Number of managed BeanDevice® 2.4GHz | 35 | 35 | Unlimited | Unlimited | Unlimited |
| Period technical assistance (e-mail) | 1 MONTH | 1 YEAR | 1 YEAR | 1 YEAR | 1 YEAR |
| OPC Server DA | ❌ | ❌ | ❌ | ✅ | ✅ |
| Free of cost ? | ✅ | ❌ | ❌ | ❌ | ❌ |
| Real time data base | ✅ | ✅ | ✅ | ✅ | ✅ |
| GUI ( Graphical User Interface ) | ❌ | ✅ | ✅ | ✅ | ✅ |
| Alarm notification by email | ❌ | ✅ | ✅ | ✅ | ✅ |
| Streaming with Event-Trigger (S.E.T.) mode | ❌ | ✅ | ✅ | ✅ | ✅ |
| NTP client | ❌ | ✅ | ✅ | ✅ | ✅ |
| Real-Time FFT, Real-Time Velocity | ❌ | ❌ | ✅ | ✅ | ✅ |
| Automatic Reports (Waveform , FFT, PPV, Velocity) | ❌ | Only Waveform report | ✅ | ✅ | ✅ |
| Multi-user access | ❌ | ❌ | ❌ | ❌ | ✅ |

## MINIMUM SYSTEM REQUIREMENTS :

- 2.33GHz or faster x86-compatible processor
- Microsoft® Windows® XP (32-bit), Windows Server® 2003 (32-bit), Windows Server 2008 (32-bit), Windows
  Vista® (32-bit), Windows 7 (32-bit and 64-bit), Windows 10 (32-bit and 64-bit)
- 2GB of RAM
- 5 GB of disk space
- 128MB of graphics memory

# WIRELESS IOT SENSORS SUPERVISION SOFTWARE

## HOW THE BEANSCAPE LICENCE IS WORKING ? :

The BeanScape® licence is related to the BeanGateway® device, i.e. user can install the BeanScape® on different
PC and asynchronously connect it to the same BeanGateway®.
If a new BeanGateway® is acquired, there will be two applications cases:
• The BeanGateway® works independently, a new BeanScape® Basic should be acquired
• The BeanGateway® is connected to the same PC (multi-WSN management), BeanScape® Premium / Premium+ / Multiview should be considered

## CONTACT US :

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|---|---|---|
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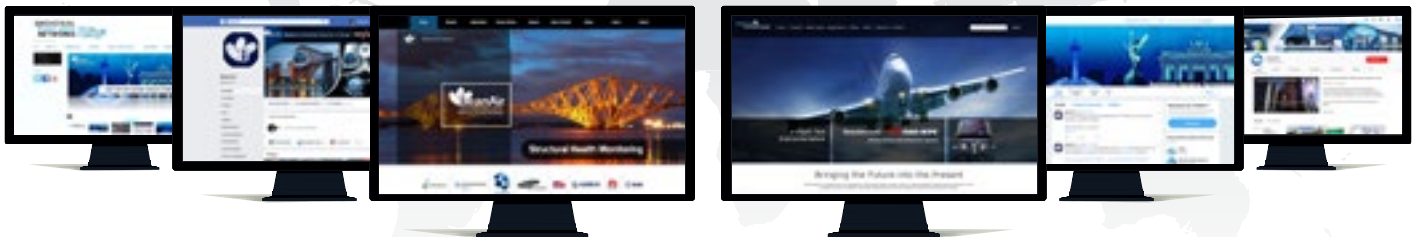12681 Berlin | info@beanair.com | +49 30 98366680 |

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