



8th International Conference for Fire Brigades in the High-Hazard Industries

Better communication and more information with FPS-COM 5000 / FPS-COM 7000

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Budapest 10th – 11th November 2015

Technology for Life

Dräger products

protect, lives
support and
save .

Dräger in profile

The company in figures



Employees	13,737 (2014)
Net sales	EUR 2,434 million (2014)
Chief Executive Officer	Stefan Dräger (family-run)
Form of business organization	AG & Co. KGaA
Headquarters	Lübeck
Production sites	Germany, Brazil, China, Czech Republic, South Africa, Sweden, United Kingdom, USA
Sales and service branches	in more than 50 countries

24

new products
each year*

140

patents
registered each year*

5,000

**respiratory protective
devices produced each
month***

6,000

**local sales and service
employees***

* Figures from fiscal year 2014

Markets

Our customers

Dräger



Hospital



Fire services



Oil and gas industry



Mining



Chemical industry



Other markets

FPS-COM series

Applications today of communication within FS



Level

Strategic

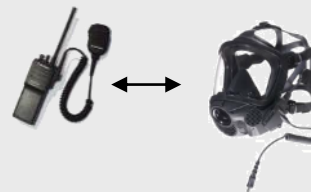
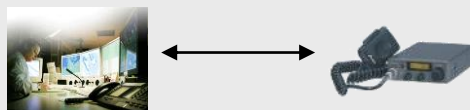
Tactical

Operational

Requirement



Solution



FPS-COM 7000

Applications & challenges – smoke diving

**Background Noise
(Alarms, Ventilations)**

Heat

**Radio
Discipline**

**Breathing
Noise**

**Physical
overload**

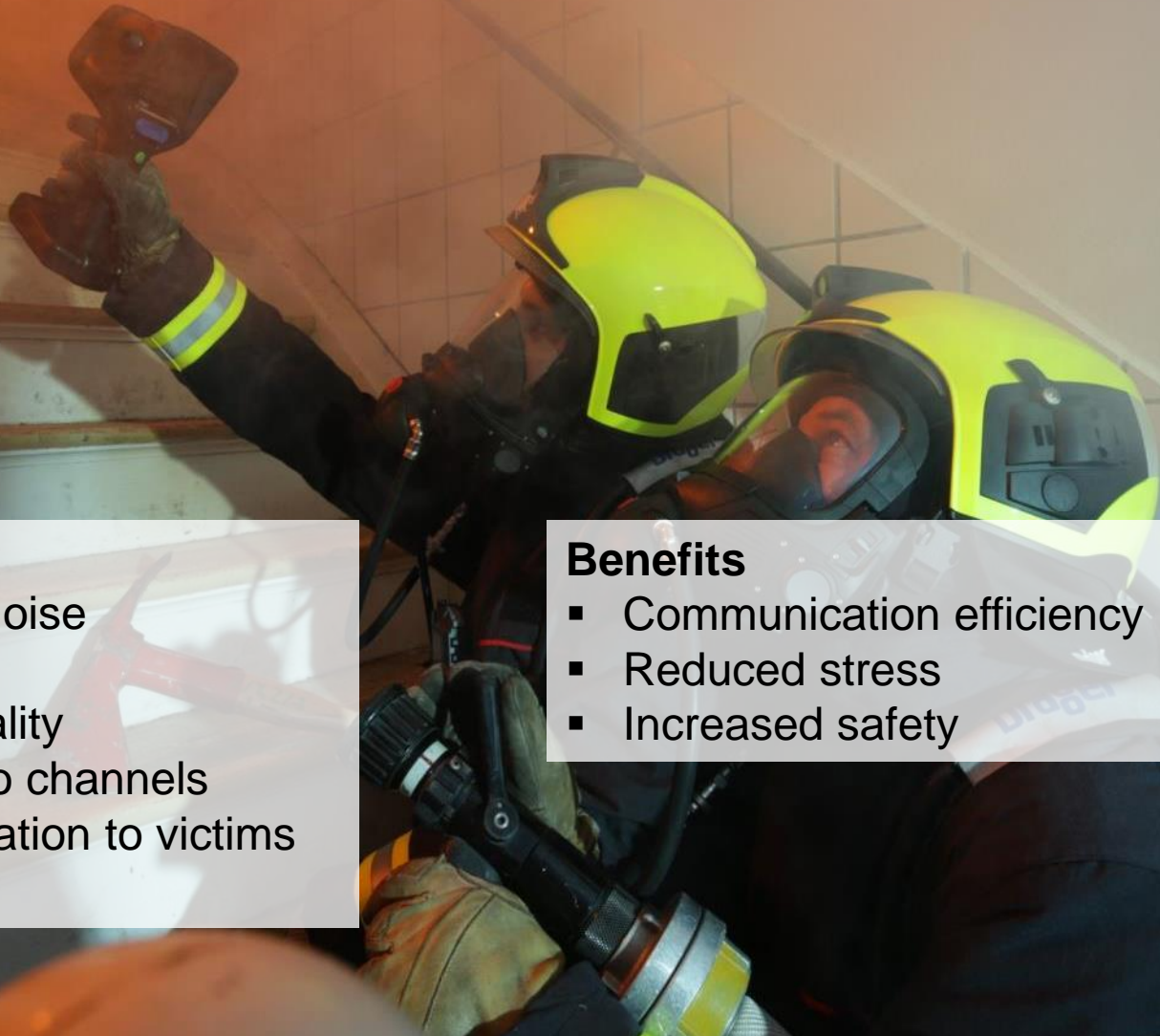


**Locations
Findings
Instructions
Pressure Readings
Acknowledgements**



FPS-COM 7000

Applications & Challenges – search & rescue

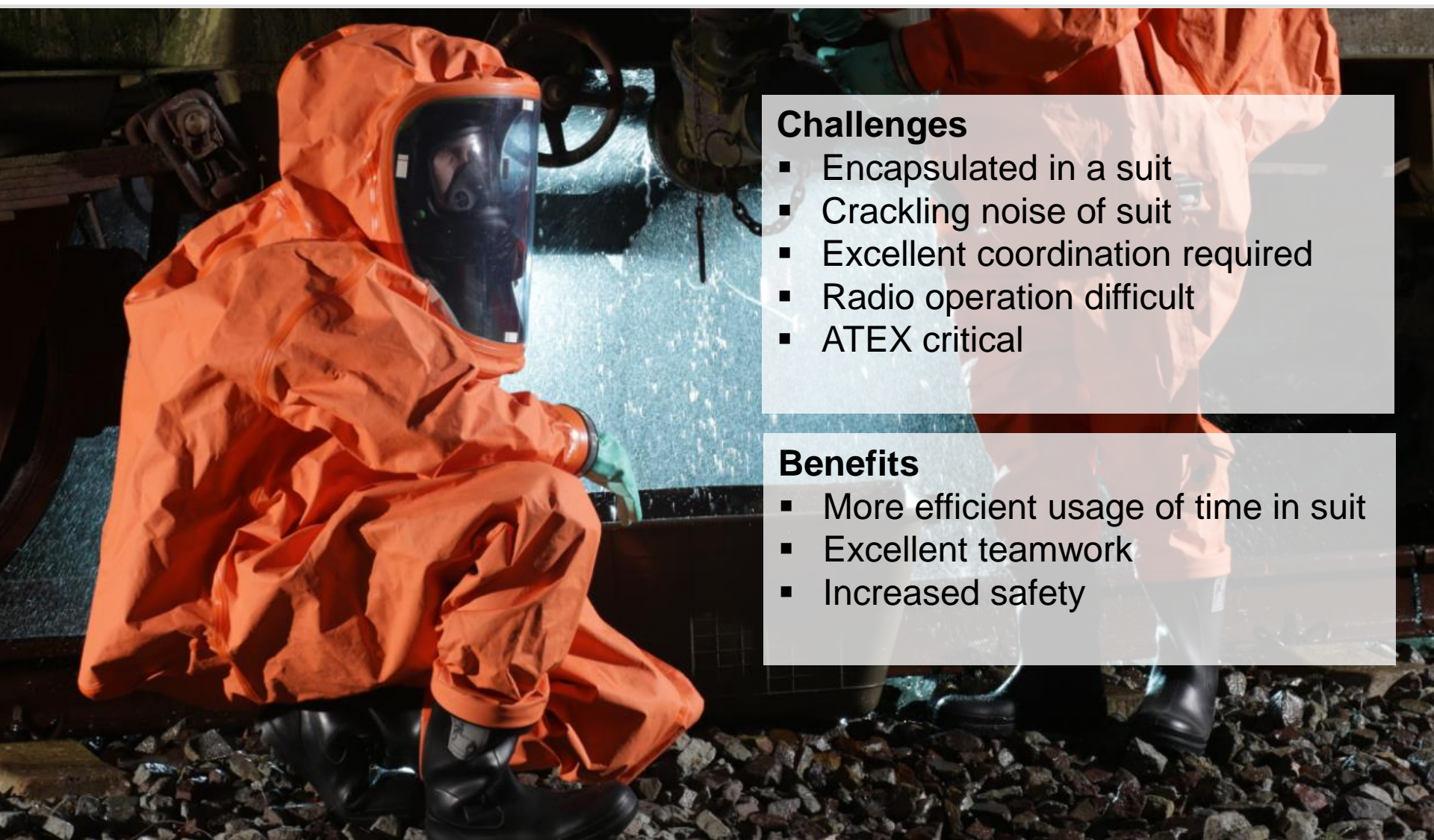


Challenges

- Background Noise
- No visibility
- Bad audio quality
- Jamming radio channels
- No communication to victims

Benefits

- Communication efficiency
- Reduced stress
- Increased safety



Challenges

- Encapsulated in a suit
- Crackling noise of suit
- Excellent coordination required
- Radio operation difficult
- ATEX critical

Benefits

- More efficient usage of time in suit
- Excellent teamwork
- Increased safety

Situation 1 – “Each HazMat Team in a dedicated group”

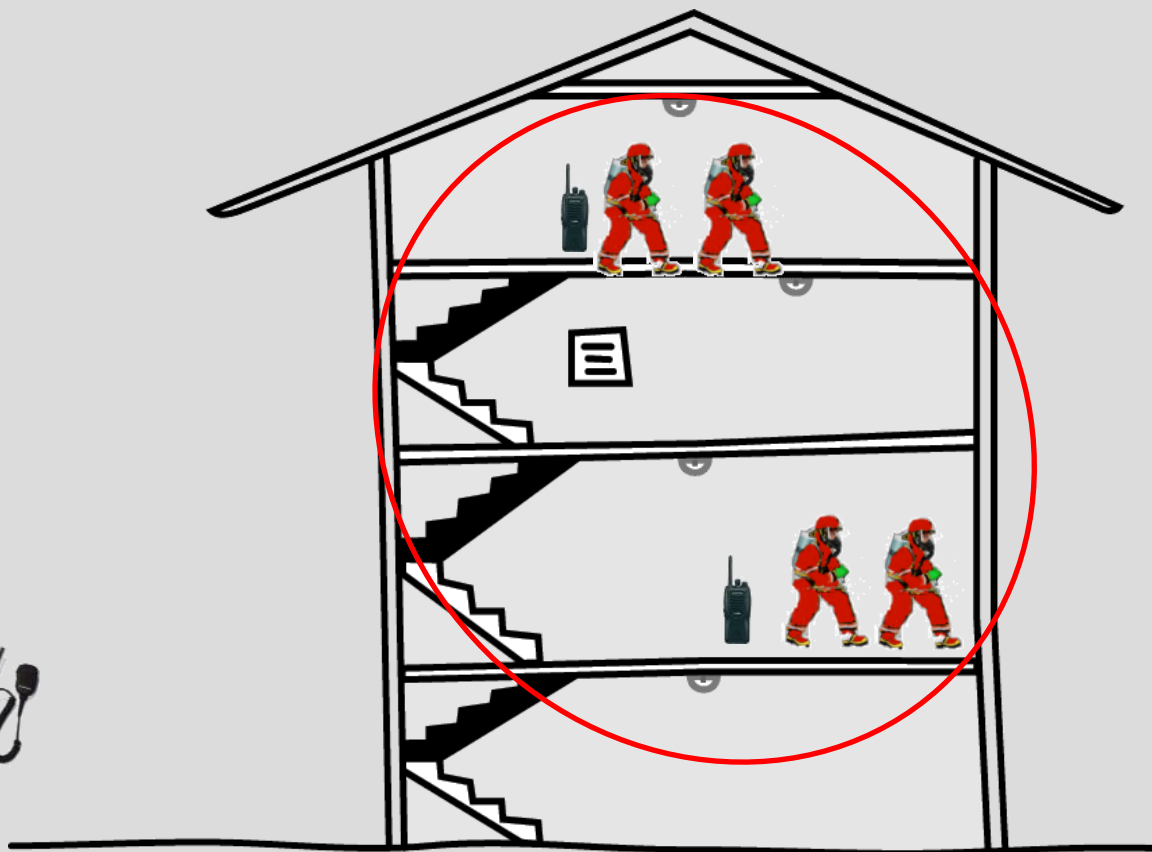
 “Group 0”

 “Group 1”



Situation 2 – “One group for all HazMat Teams”

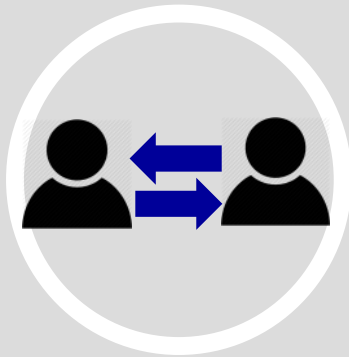
○ “Group 0”



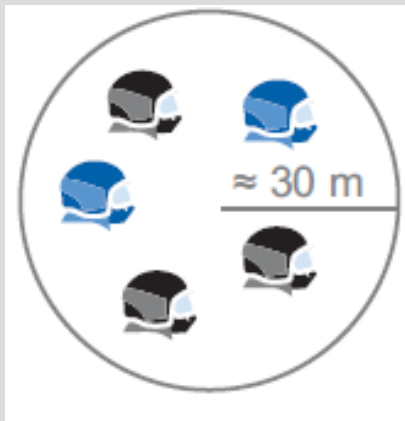
Situation 3 – “Relaying tactical radio”

○ “Group 0”





- Up to 7 groups with 10 users each possible
 - Can /will be pre-configured groups
 - Group number is announced on startup (voice prompt)
- Two persons can speak at one time (duplex)



- License free 864 MHz
„Dräger digital encryption“
- Radio Coverage
30m indoor, 100m line of sight
acoustic announcement when out of coverage

Voice Amplifier vs. Team Communication

Voice Amplification	Team Communication
<ul style="list-style-type: none"> ▪ Limited distance (~5m indoor) 	<ul style="list-style-type: none"> ▪ Increased distance (~ 30m indoor)
<ul style="list-style-type: none"> ▪ Surrounding noise 	<ul style="list-style-type: none"> ▪ Communication via ear speaker
<ul style="list-style-type: none"> ▪ Cost effective solution 	<ul style="list-style-type: none"> ▪ Fully integrated solution

“the simplest, cost effective solution”

“the most reliable communication”

FPS-COM 7000

Benefits



Voice activated communication for **hands-free communication**



Full duplex team communication for **increased safety**



Bluetooth option to connect to selected tactical radios **avoids risk of snagging**



Easy Clip On allows **flexible usage of mask with or without com and simplifies washing process**



Two voice amplifiers give **omni-directional sound for a clear communication**



Enlarged PTT button for **easy access to tactical radio**

FPS-COM 7000

Main parts



FPS-COM 7000 Systems Overview



CARRIER OPTIONS (M)

CARRIER P/RA

CARRIER PE/ESA

COM UNIT OPTIONS (M)

864 MHZ

900 MHZ

EAR SPEAKER OPTIONS (M)

EARSPEAKER RIGHT

EARSPEAKER LEFT

STANDARD SCOPE OF DELIVERY (S)

BATTERY PACK 2 X AA

CARRIER SCREW

BLINDCAP EARSPEAKER

BLINDCAP RADIO INTERFACE

INSTRUCTIONS FOR USE- 900MHZ

INSTRUCTIONS FOR USE- 864MHZ

TR CABLES

TR JEDI

TR SEPURA

TR GCAI

TR WARIS

TR UNIVERSAL

TR ENTEL

BT VARIANTS (Op)

- BT MOTOROLA EU
- BT MOTOROLA US
- BT CASSIDIAN
- BT SEPURA
- BT SELEX
- BT HARRIS

OPTIONAL ACCESSORY (Op)

CONFIGURATION CABLE + PC SOFTWARE

EARSPEAKER RIGHT

EARSPEAKER LEFT

- (M) Mandatory Option
- (S) Standard Scope of Delivery
- (Op) Optional Accessory

FPS-COM 5000

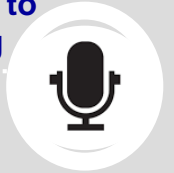
Benefits



Increased volume on **voice amplifiers for clear communication**



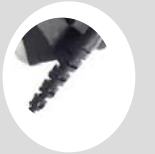
Bluetooth option to connect to selected tactical radios **avoids risk of snagging**



Redesigned microphone **fitting to BG4 and simplifying cleaning**



Redesigned cable outlet **to increase robustness**



Enlarged PTT button for **easy access to tactical radio**

FPS-COM 5000 will replace FPS-COM-PLUS

Radio compatibilities



→ compatible to more than 350 different radio models

Bluetooth compatibility to selected Bluetooth radios



- SEPURA STP8000
- Cassidian (Airbus) TPH700
- SELEX Puma T3 ATEX
- Harris XG-100P
- Motorola APX series
- Motorola MTP6000
- ICOM series

The perceived audio quality may be influenced by the used radio

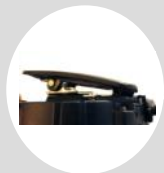
Dräger FPS-COM series[®] PTT-Model C-C440 benefits



Universal Nexus plug provides **flexible usage together with headsets**



Extra large, sensitive Push-To-Talk button provides **easy accessibility**



Rotating clip gives **flexible mounting options on clothes**



Compatibility to a wide range of radios gives **flexibility**



Inline cable routing enables **comfortable wearing together with headset and radio**



Rugged design to **withstand harshest environments**

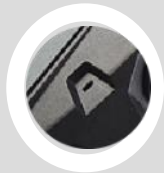


Dräger FPS-COM series[®] PTT-Model C-C550 benefits

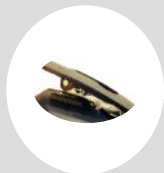
Dräger



Two Push-To-Talk buttons ensure **easy accessibility**



Integrated microphone **provides clear communication**



Rotating clip gives **flexible mounting options on clothes**



Compatibility to a wide range of radios gives **flexibility**



Integrated loudspeaker for **flexible use and clear communication**



Rugged design to **withstand harshest environments**

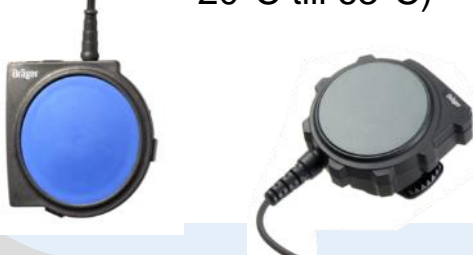


C-C440

- weight: 140g
- attachment: 360° rotating clip
- interface: 4 pole Nexus
- operating temperatures: : -40°C to + 85°C
- protection class: IP67, MIL 810G
- intrinsic safety: dependent on radio

Differences to C-C400

- a new PTT button, easier to press
- redirected cable to radio
- more robust design (C-C400: IP55)
- higher operating temperature (C-C400: -20°C till 63°C)



C-C550

- weight: 170g
- attachment: 360° rotating clip
- interface: 4 pole Nexus
- operating temperatures: : -40°C to + 85°C
- protection class: IP67, MIL 810G
- intrinsic safety: dependent on radio

Differences to C-C500

- increased volume of loudspeaker (radio dependent)
- increased operating temperature (C-C500: -20°C to 63°C)

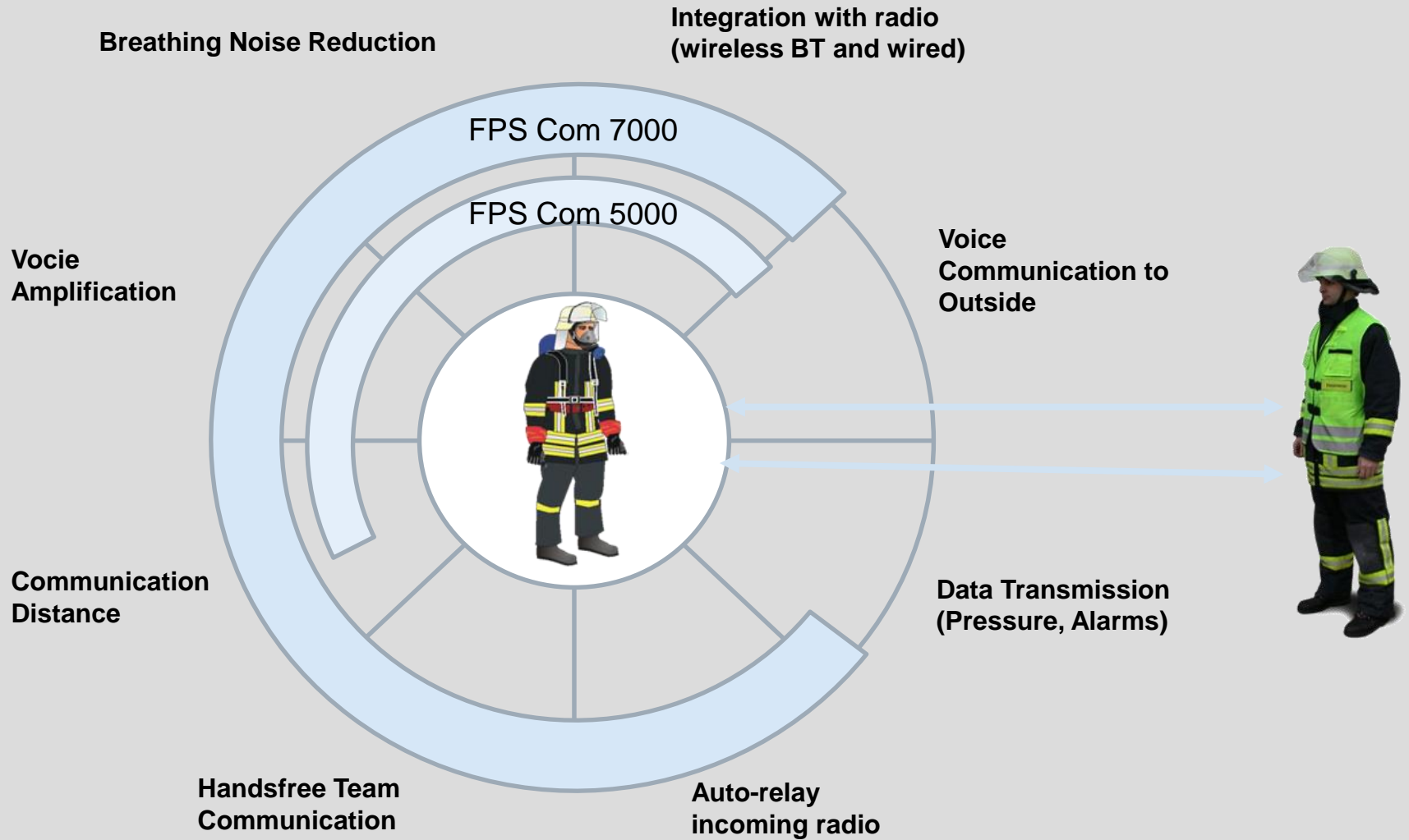


Differentiation

FPS-COM 5000 and FPS-COM 7000

	FPS-COM 5000	FPS-COM 7000
Features		
Enhanced Voice Amplifier	✓	✓
Enhanced Speech Quality	✓	✓
Breathing Noise Cancellation	✓	✓
Radio Connection Cable	✓	✓
Radio Connection Bluetooth	✓	✓
Easy Clip On	✓	✓
Team Communication		✓
Relaying Incoming Radio Calls		✓
Configuration Software		✓

Communication Portfolio Overview



Thank you for your attention.

Stefan Denker
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