



ACCIDENTOLOGY

MARITIME PILOTS  
2001 - 2021:  
ACCIDENTOLOGY OF THE  
PAST 20 YEARS WITHIN THE  
FRENCH MARITIME PILOTAGE

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Marseilles-Fos pilot

FFPM



**FFPM** / Fédération Française  
des Pilotes Maritimes

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**André GAILLARD**

Secretary General of the **French Maritime Pilot Association**  
Pilot of **Marseilles - Fos & Nice - Cannes - Villefranche**

BIOGRAPHY



Born in Nice, France (1972)

Married, 3 kids

Merchant Marine Academy (Marseilles), 1991

Unlimited Master License (2001), Cruise ships - Ferries

**Marseilles – Fos Pilot** (2003)

**Nice – Cannes – Villefranche Pilot** (2008)

- Webmaster Marseille Pilot Station, FFPM, EMPA
- President Nice - Cannes Pilot Station (2015-2020)

**Secretary General - FFPM** (May 2021)

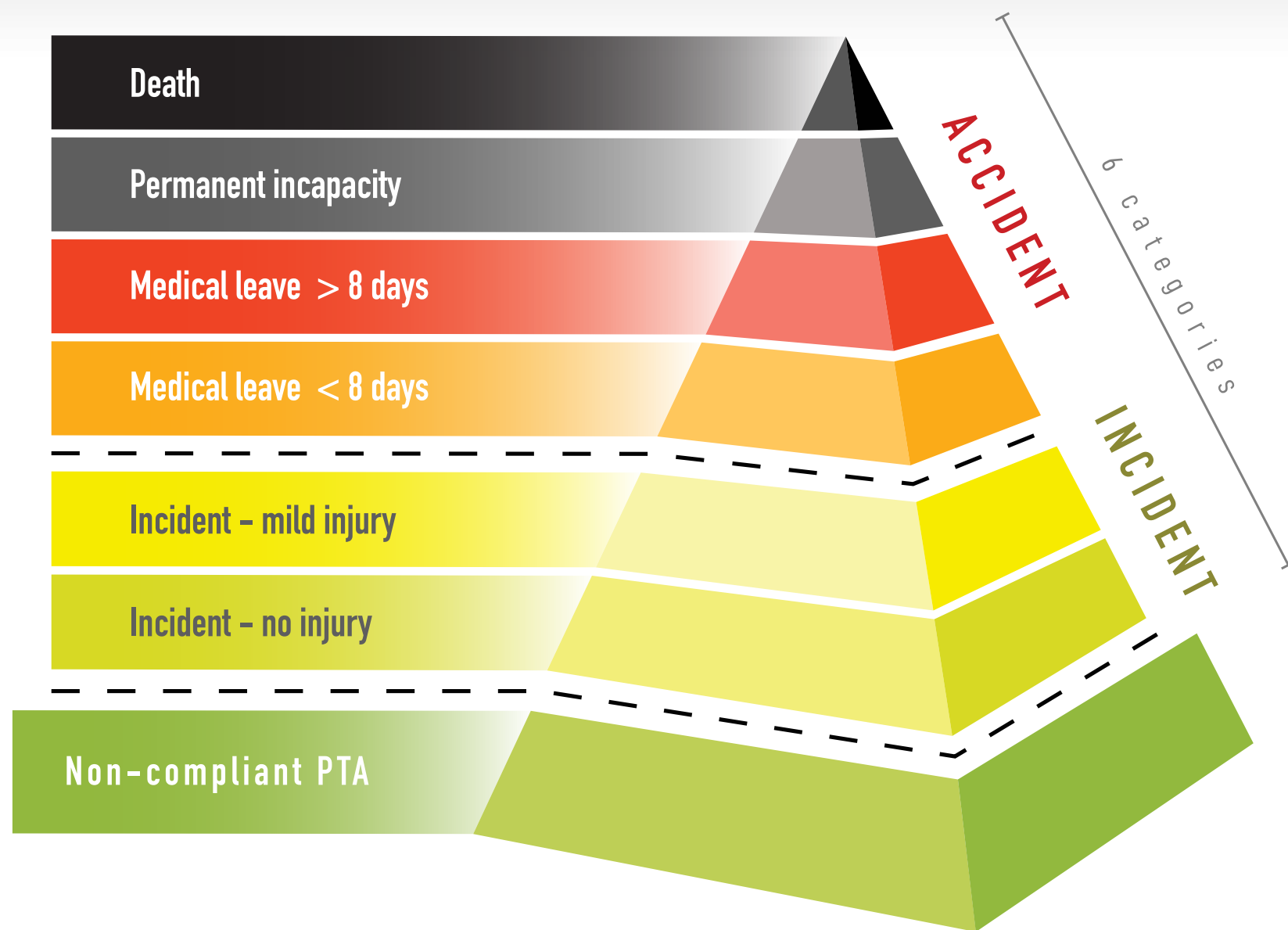
**Vice – President IMPA** (June 2022)

**STUDY: Accidentology of the French Maritime Pilotage** (2022)

Scope of the study presented: **330 pilots** in **30 pilot stations** in mainland France and overseas.

# SUMMARY : 2001 – 2021, 20 YEARS OF ACCIDENTOLOGY

## CATEGORIES OF ACCIDENTS AND INCIDENTS DURING PILOT TRANSFERS



**160** accidents and incidents classified in **6** categories

**1** deceased pilot in France (but 1.8 deaths / year on average for 8360 maritime pilots in the worldwide)

**3** pilots on permanent sick leave

**1** amputated leg

**30** cases of pilots falling off ladders:  
10 man overboard accidents  
20 falls on the deck of the pilot boat

**4500** total sick leave days  
(225 days / year on average)

↑ high level of  
**VIGILANCE**

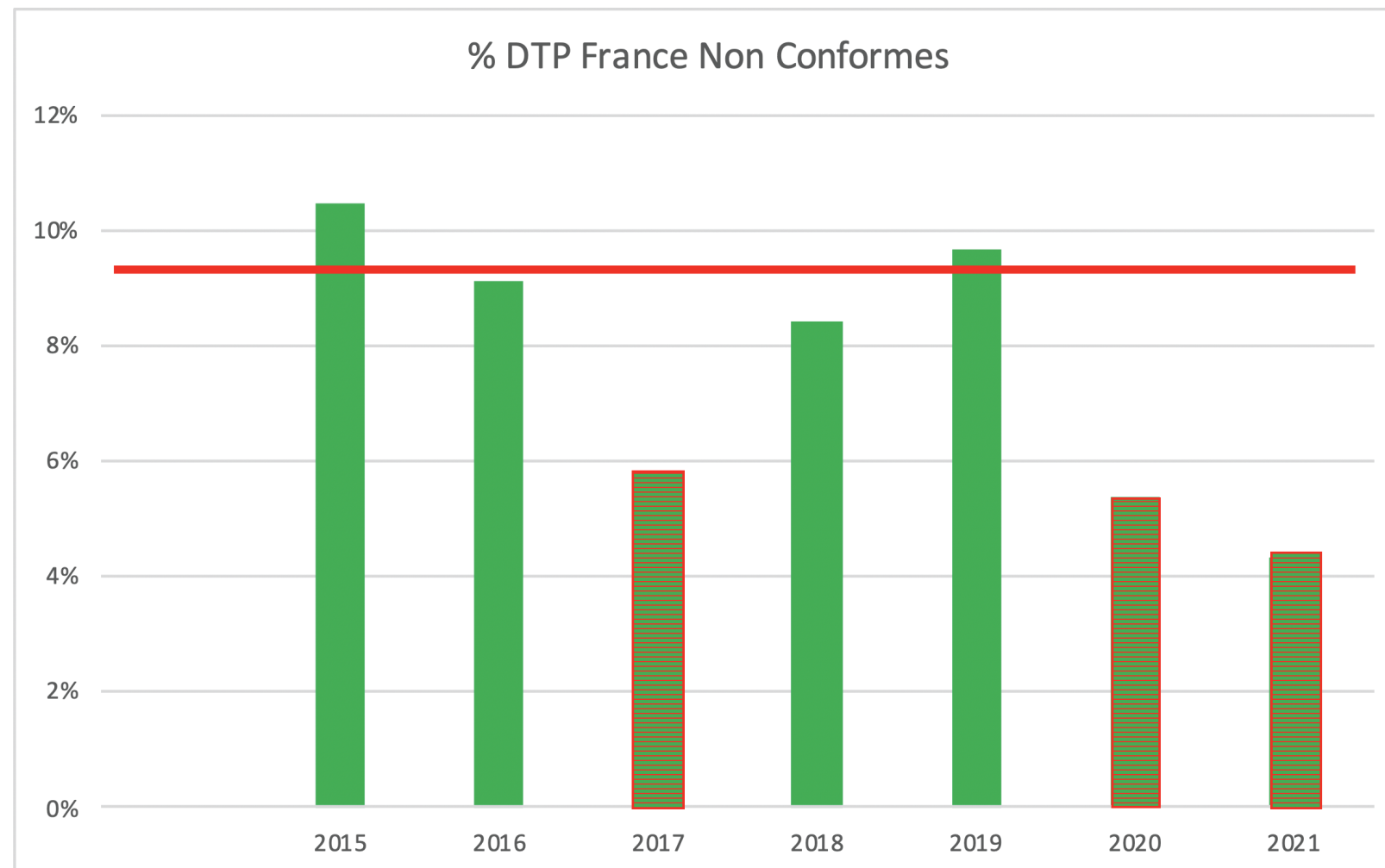
yet

↑ elevated  
**RISK**

ACCIDENT FREQUENCY:  
4 times **lower** than the national average

ACCIDENT SEVERITY:  
5 times **higher** than the national average

# NON-COMPLIANT PTA STATISTICS - FRANCE :



| IMPA Safety Campaign Participating Countries | Year | Total Returns | Compliant | Non-compliant | %     |
|--|------|---------------|-----------|---------------|-------|
| France                                       | 2015 | 440           | 394       | 46            | 10,5% |
|  | 2016 | 394           | 358       | 36            | 9,1%  |
|  | 2017 | 206           | 194       | 12            | 5,8%  |
|  | 2018 | 381           | 349       | 32            | 8,4%  |
|  | 2019 | 372           | 336       | 36            | 9,7%  |
|  | 2020 | 521           | 493       | 28            | 5,4%  |
|  | 2021 | 255           | 244       | 11            | 4,3%  |

## NOTE :

It is important to specify that the years 2020 and 2021 were disrupted by the Covid-19 health crisis. **For the authors of this study, the percentage of non-compliant PTAs of ships calling at French ports is rather 9 - 10%.** (cf. 2015, 2016, 2018 and 2019. The statistics for the years 2017 and 2021 are based on too few cases).

# NON-COMPLIANT PTA STATISTICS - **WORLD** in 2021 :

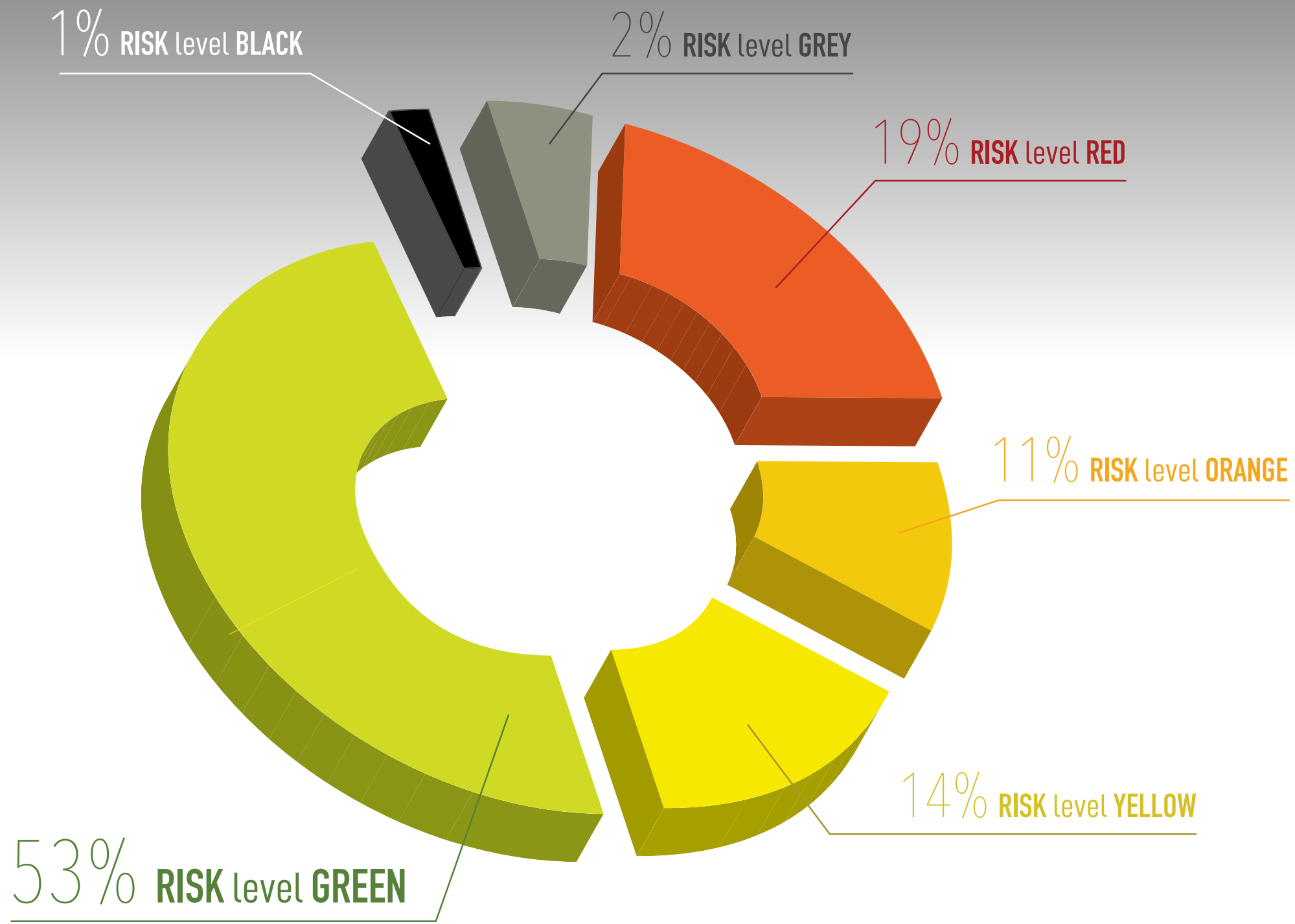
NOTE :

The percentage of non-compliant PTA's is over 13% worldwide, and over 17% in Europe.

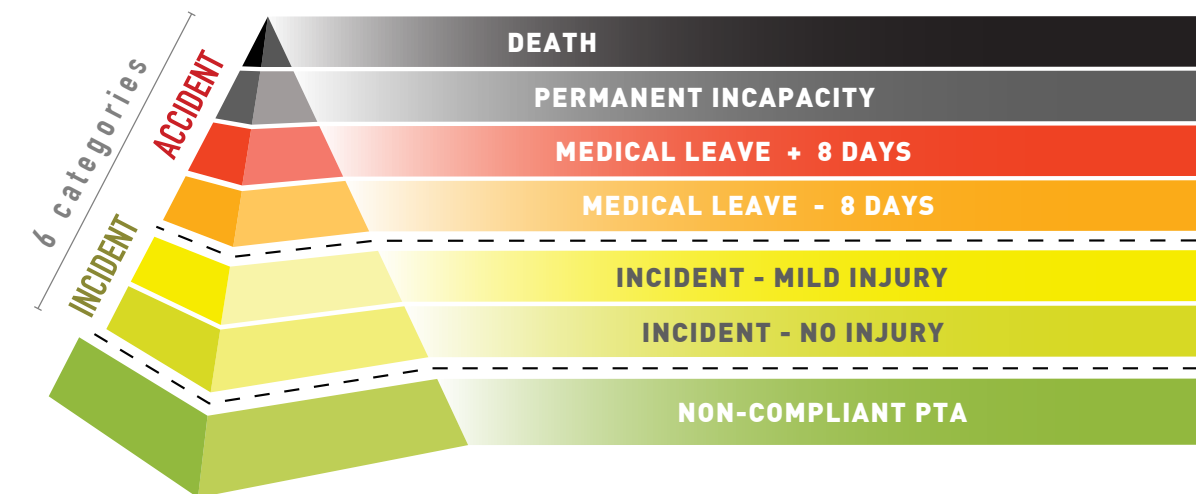
| COUNTRY        | TOTAL RETURNS | COMPLIANT   | NON COMPLIANT | NON COMPLIANT AS % |
|----------------|---------------|-------------|---------------|--------------------|
| Africa         | 76            | 59          | 17            | 22.37              |
| Asia / Oceania | 582           | 480         | 102           | 17.53              |
| Europe         | 946           | 780         | 166           | 17.55              |
| Middle East    | 48            | 14          | 34            | 70.83              |
| North America  | 156           | 117         | 39            | 25.00              |
| South America  | 1514          | 1426        | 88            | 5.81               |
| <b>TOTAL</b>   | <b>3322</b>   | <b>2876</b> | <b>446</b>    | <b>13.43</b>       |



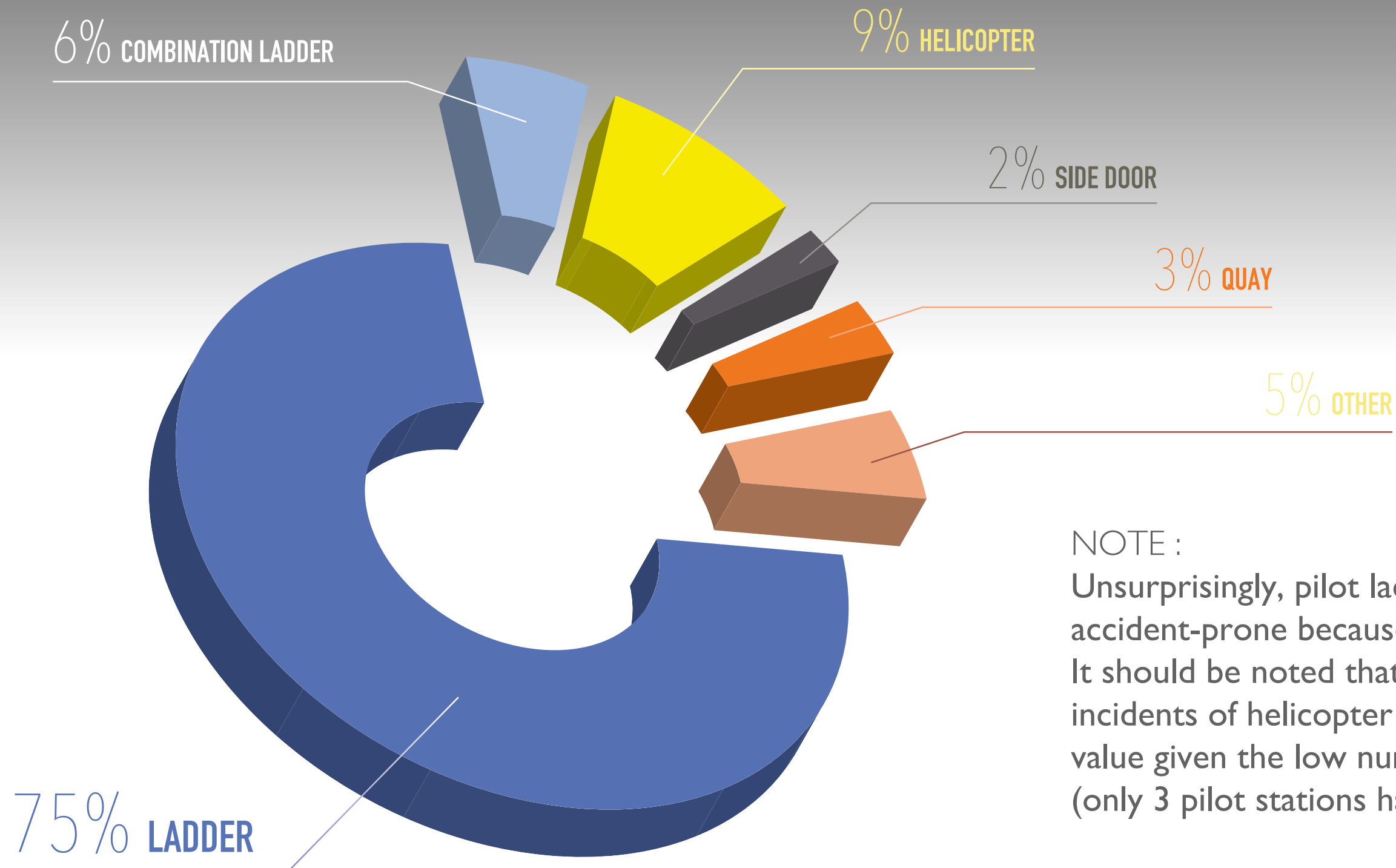
# BREAKDOWN BY CATEGORY:



| TYPES OF RISK           |            |
|-------------------------|------------|
| DEATH :                 | 1          |
| code GREY accidents :   | 3          |
| code RED accidents :    | 30         |
| code ORANGE accidents:  | 18         |
| code YELLOW incidents : | 22         |
| code GREEN incidents :  | 86         |
|                         | <b>160</b> |



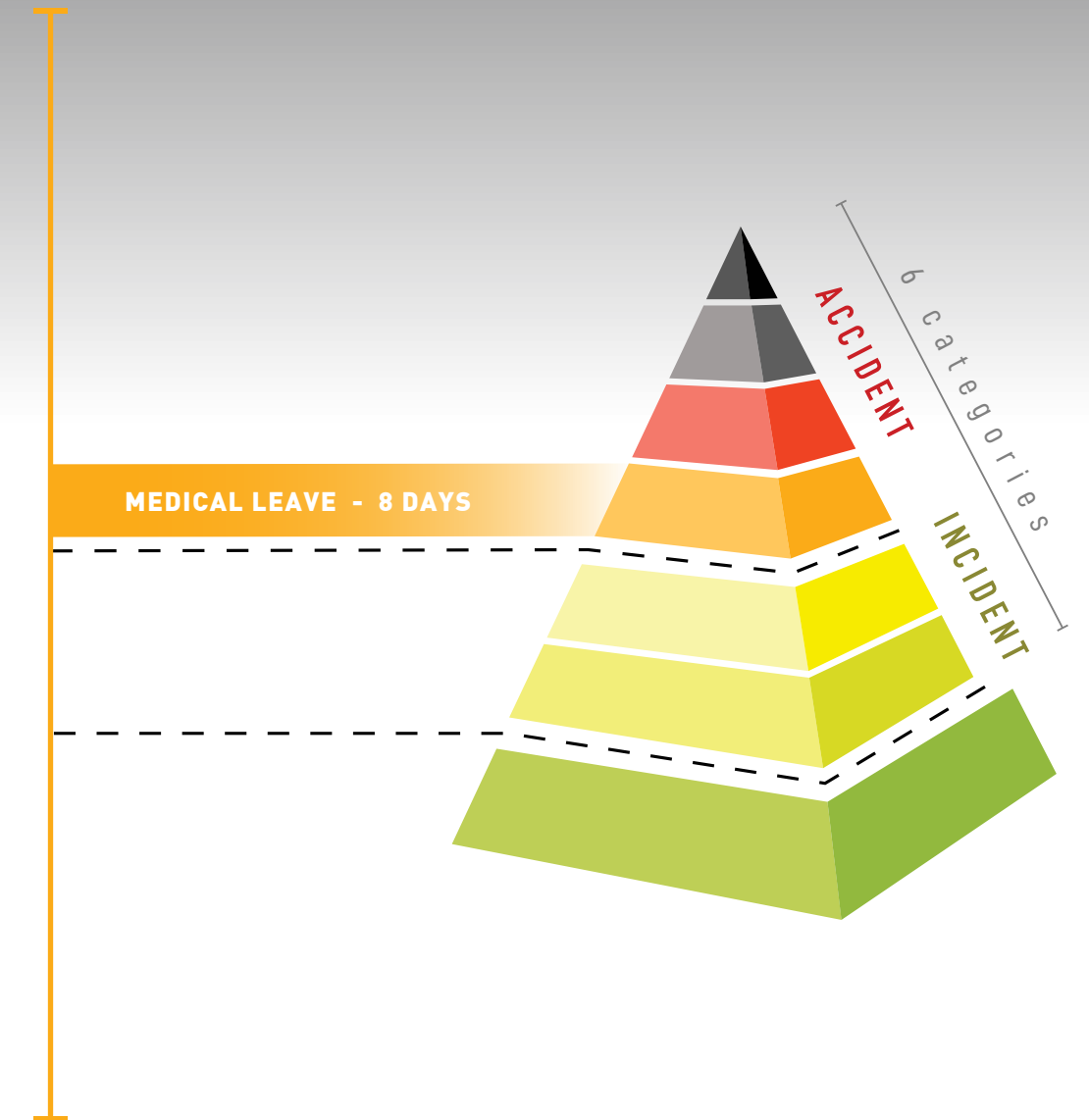
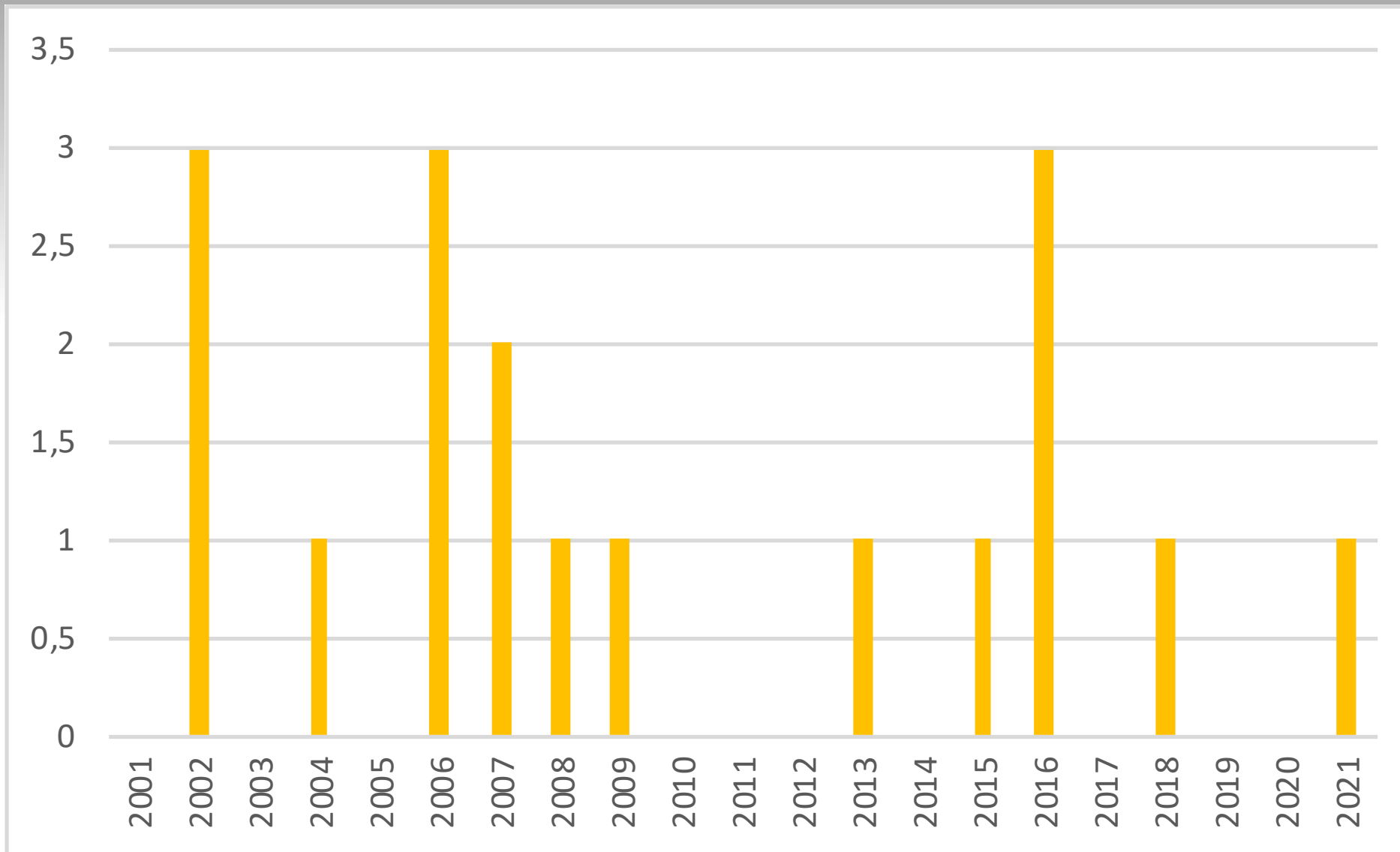
# BREAKDOWN BY TYPE OF TRANSFER:



| TRANSFER ACCIDENTS   |            |
|----------------------|------------|
| LADDER :             | 120        |
| COMBINATION LADDER : | 10         |
| HELICOPTER :         | 14         |
| SIDE DOOR :          | 4          |
| QUAY :               | 4          |
| OTHER :              | 8          |
|                      | <b>160</b> |

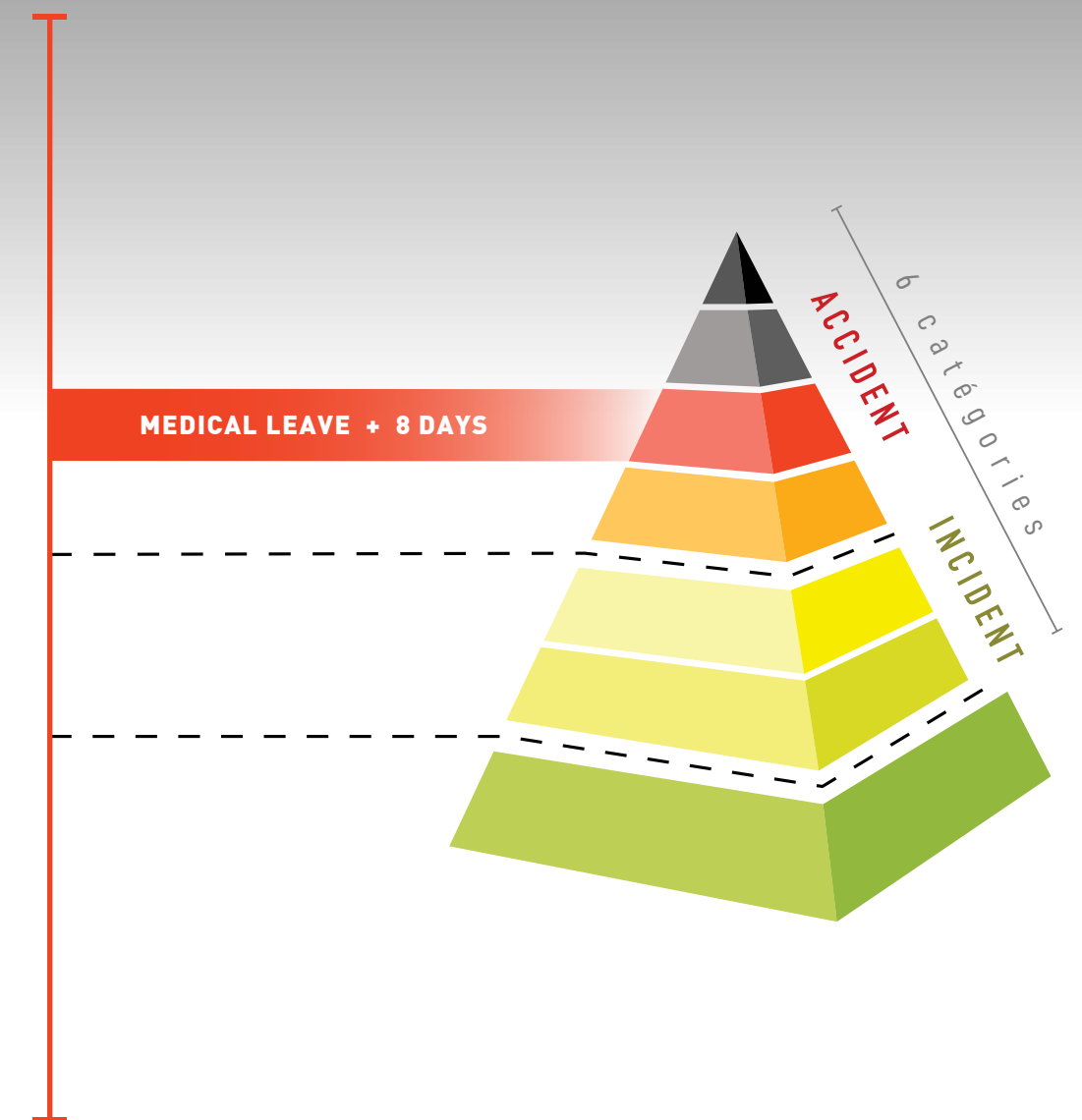
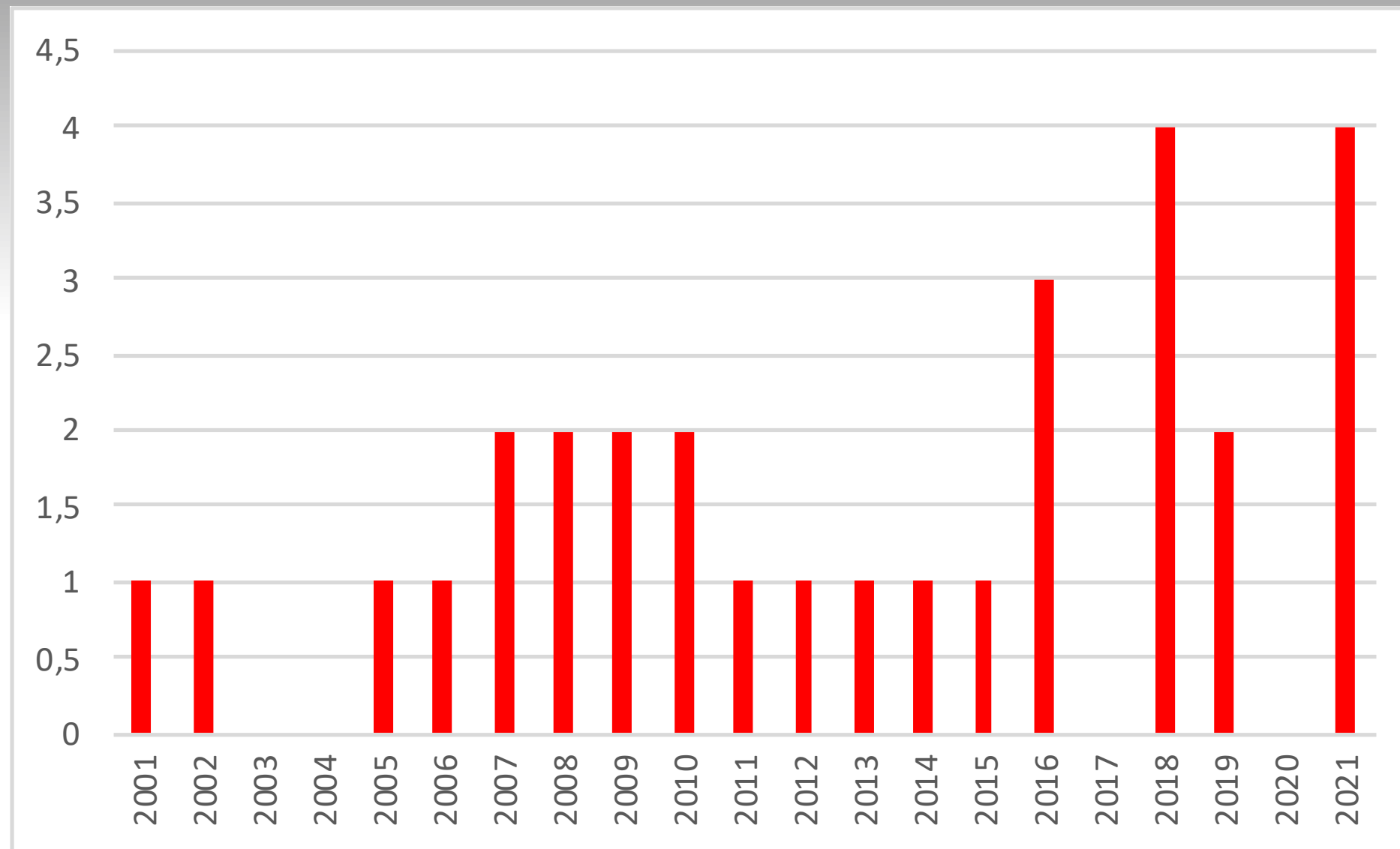
NOTE :  
 Unsurprisingly, pilot ladder transfers are the most accident-prone because it is the most used PTA. It should be noted that the number of accidents and incidents of helicopter operations is high in absolute value given the low number of these operations (only 3 pilot stations have a helicopter).

# BREAKDOWN BY YEARS : RISK level ORANGE

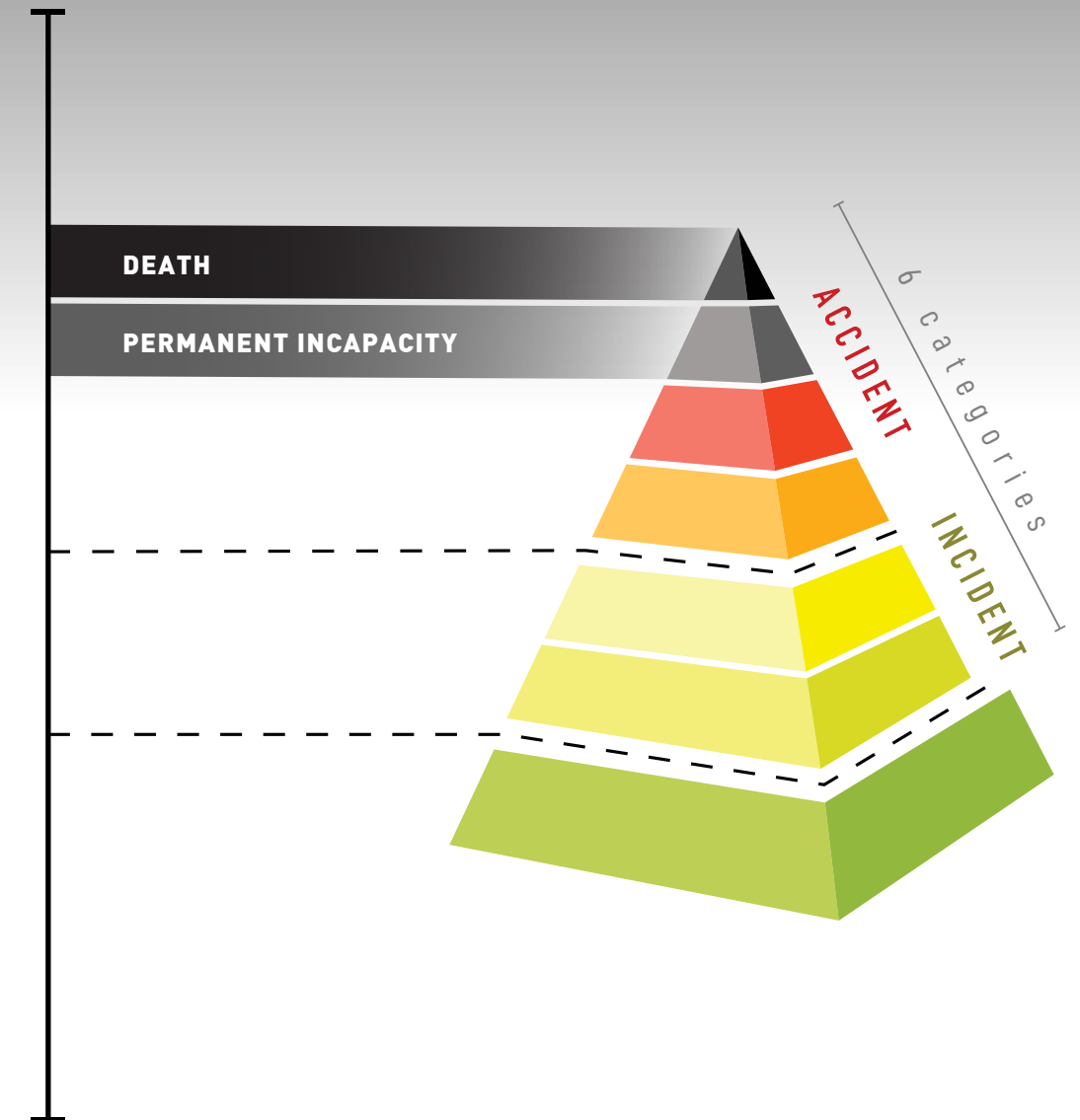
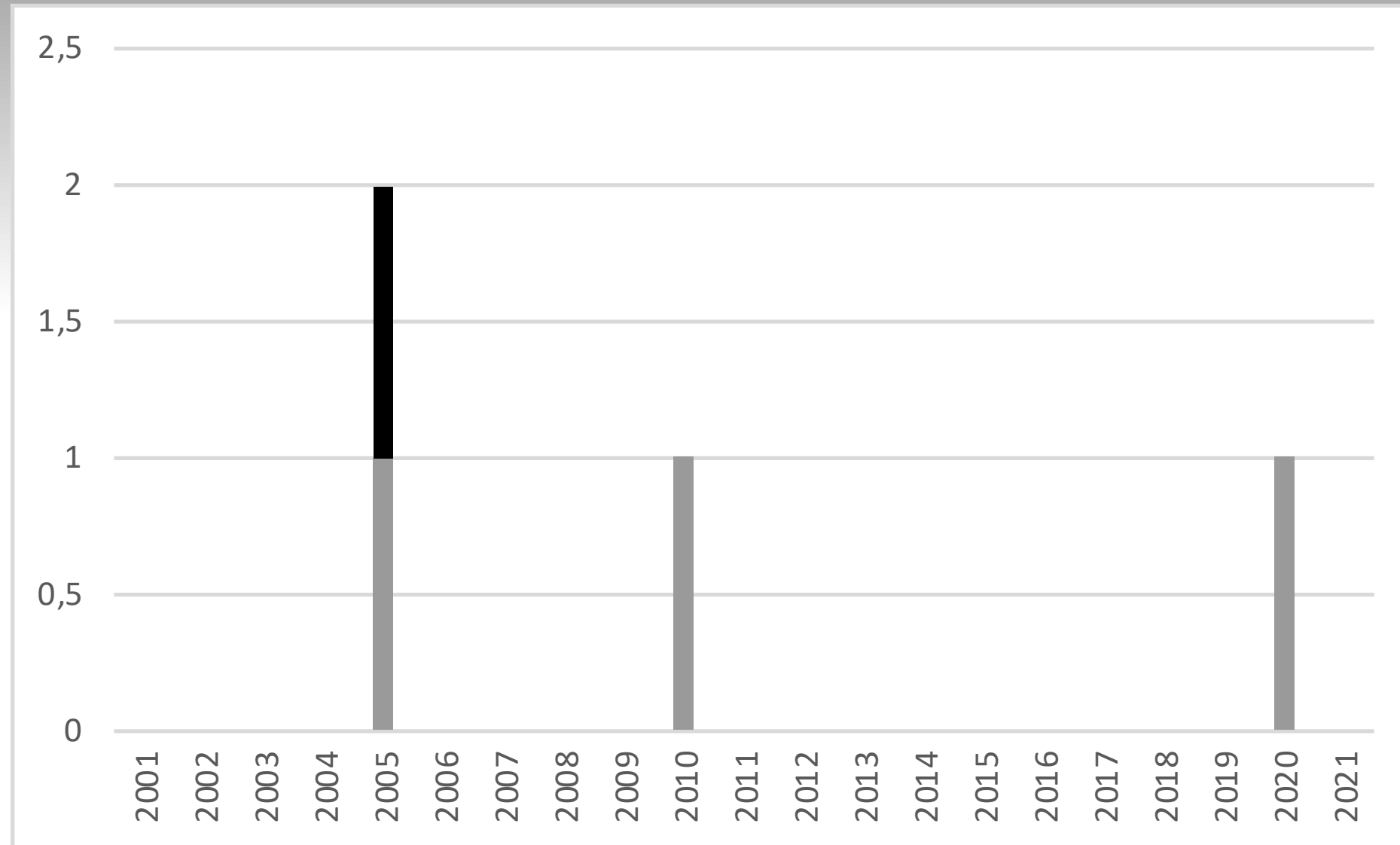




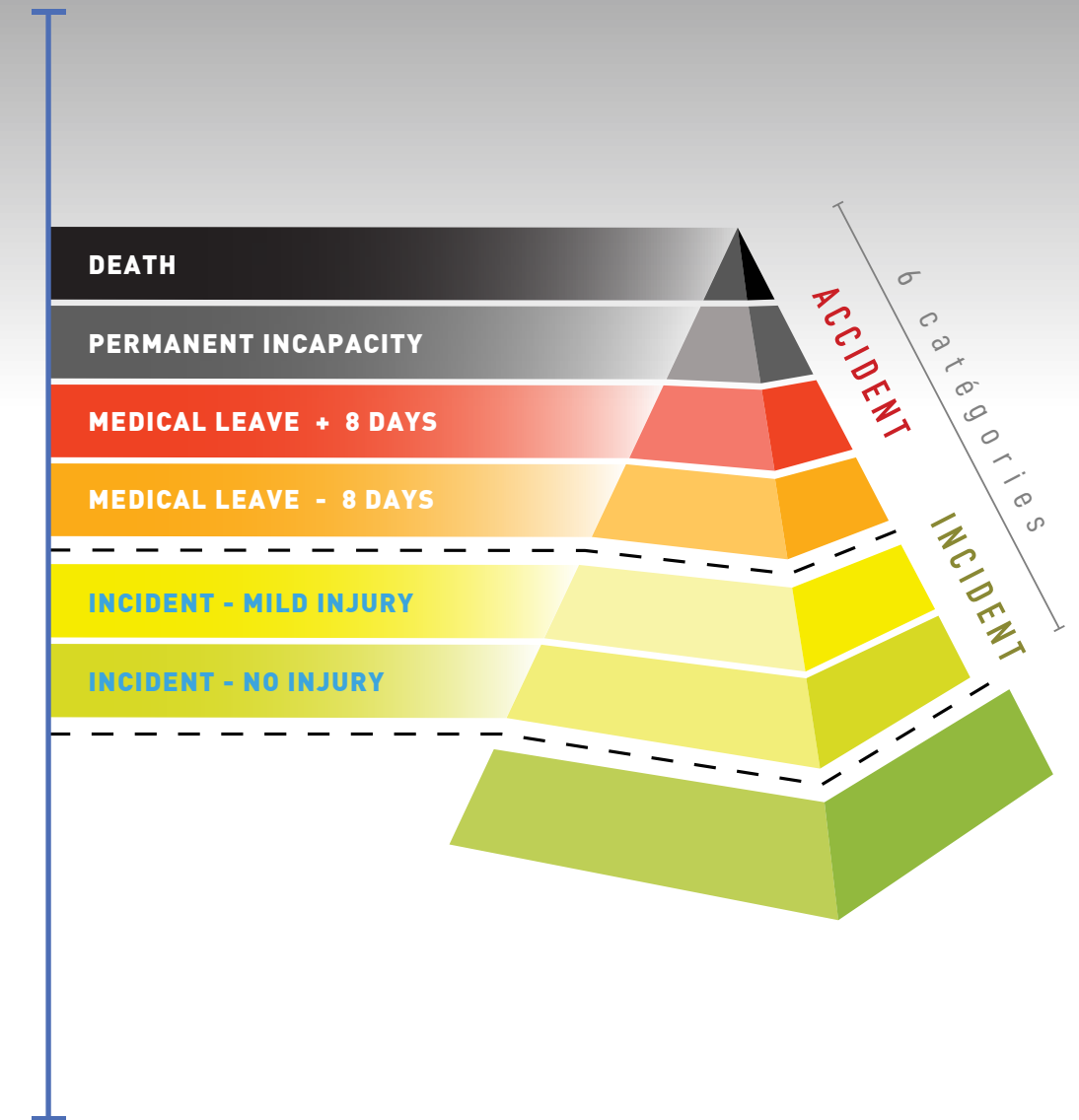
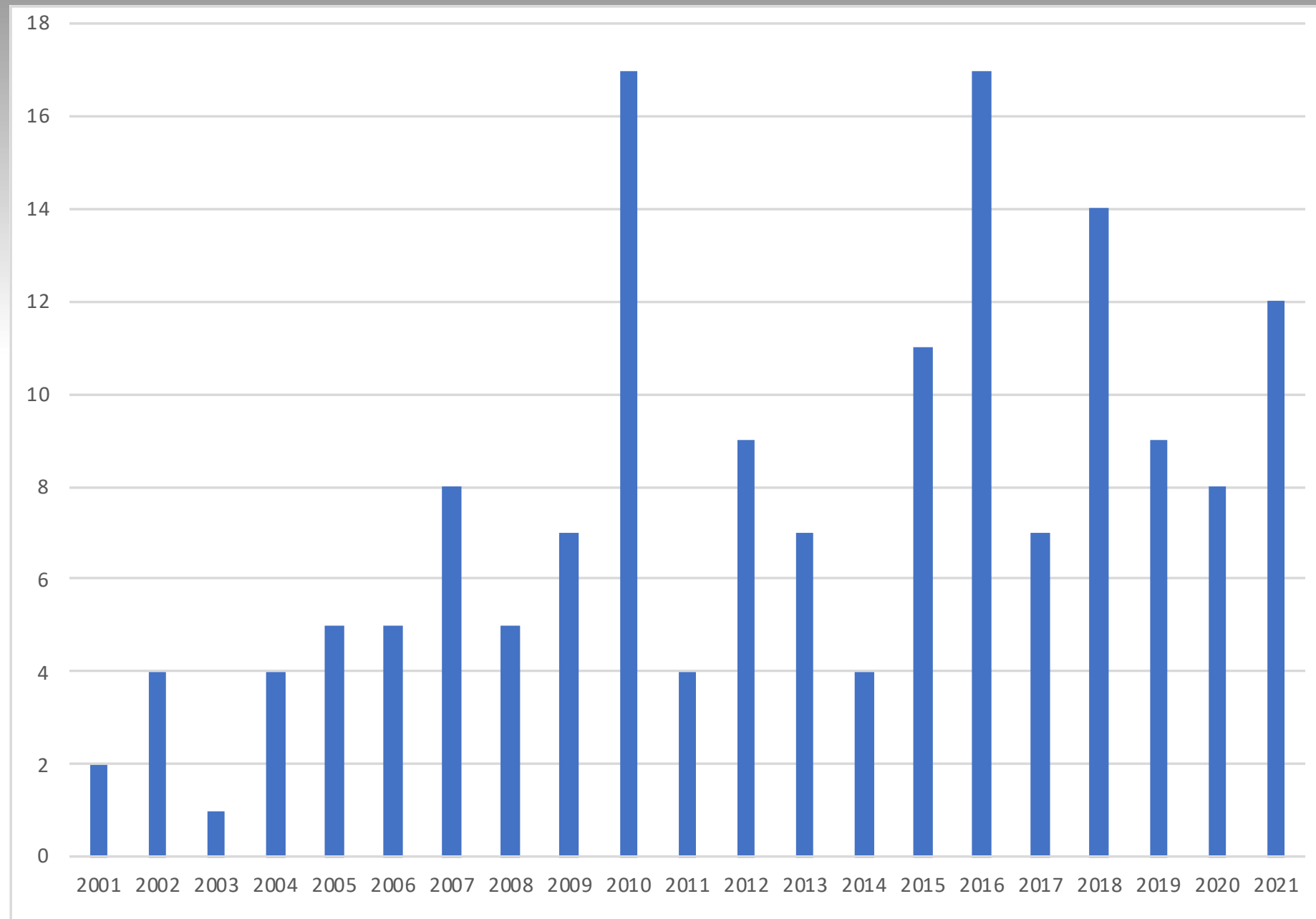
# BREAKDOWN BY YEARS : RISK level RED



# BREAKDOWN BY YEARS : RISK level BLACK & RISK level GREY



# BREAKDOWN BY YEARS : ALL RISKS & INCIDENTS COMBINED

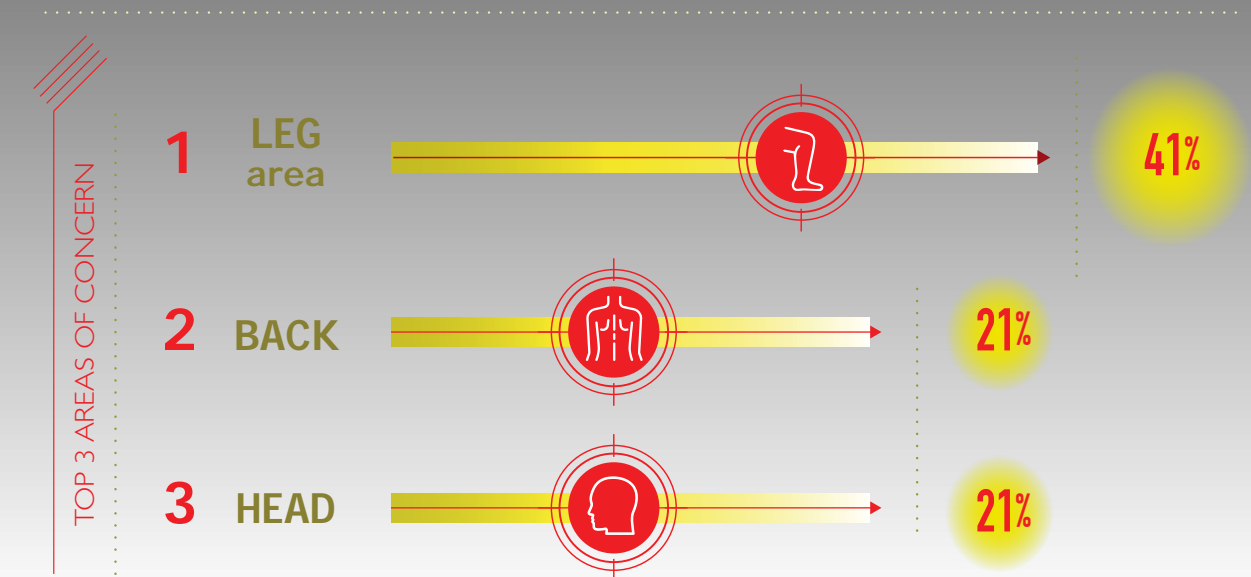
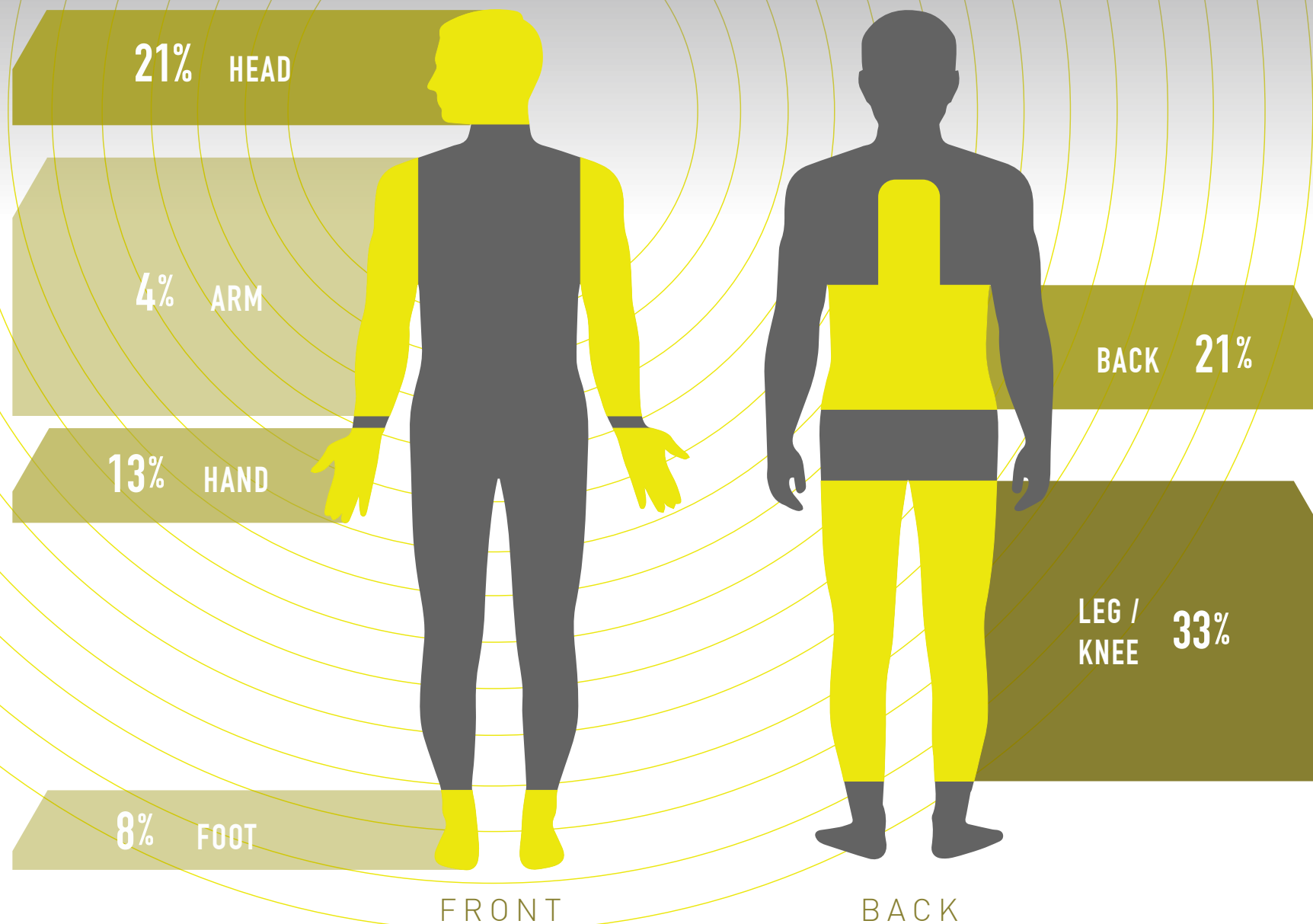


# BREAKDOWN BY TYPE OF INJURY : RISK level YELLOW

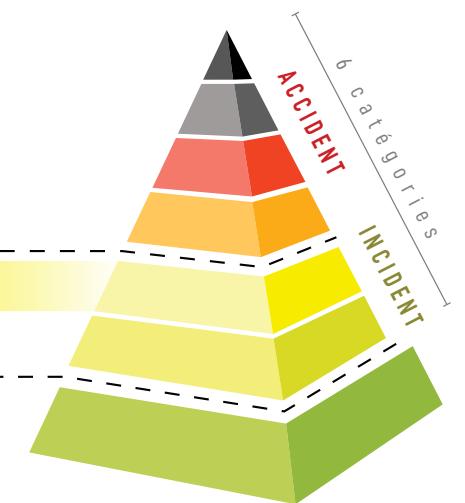
## RISK level YELLOW : Incident - mild injury

incidents that did not lead to work stoppage

PERCENTAGE OF PILOT INJURIES DEPENDENT ON IMPACT AREA



INCIDENT : MILD INJURY

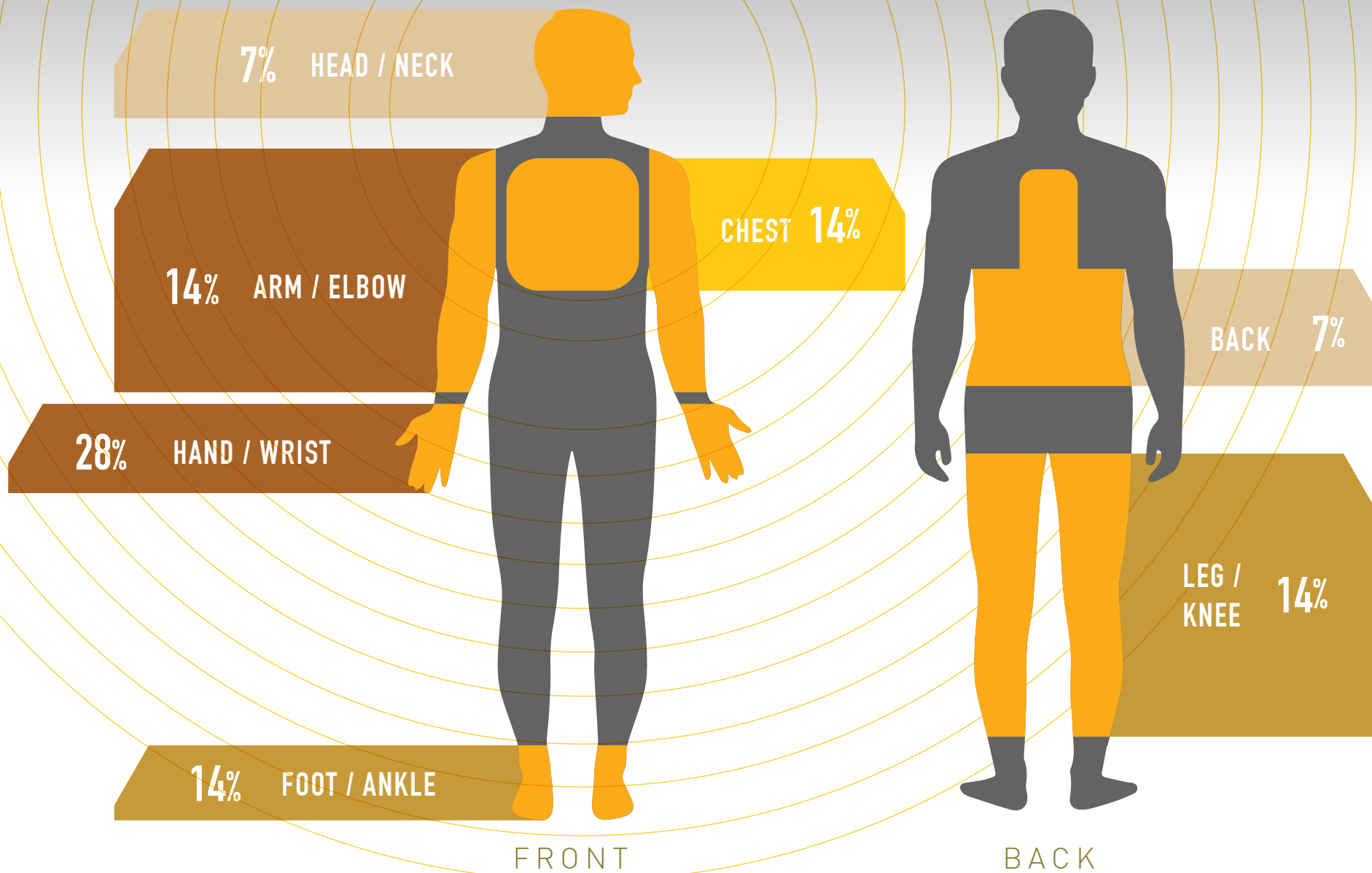


# BREAKDOWN BY TYPE OF INJURY : RISK level ORANGE

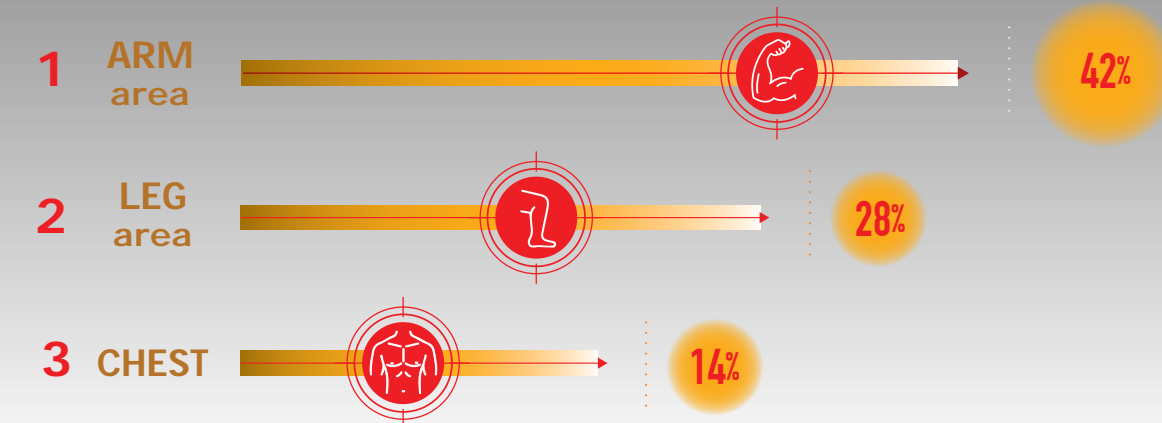
**RISK level ORANGE** : Medical leave < 8 days

accidents leading to a work stoppage of less than 8 days

PERCENTAGE OF PILOT INJURIES DEPENDENT ON IMPACT AREA



TOP 3 AREAS OF CONCERN



MEDICAL LEAVE - 8 DAYS

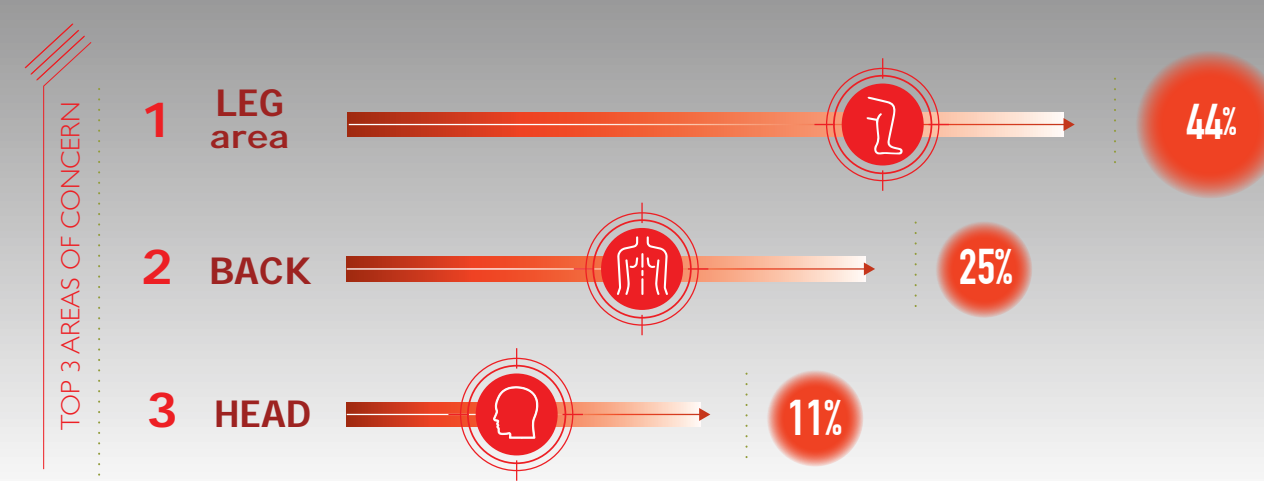
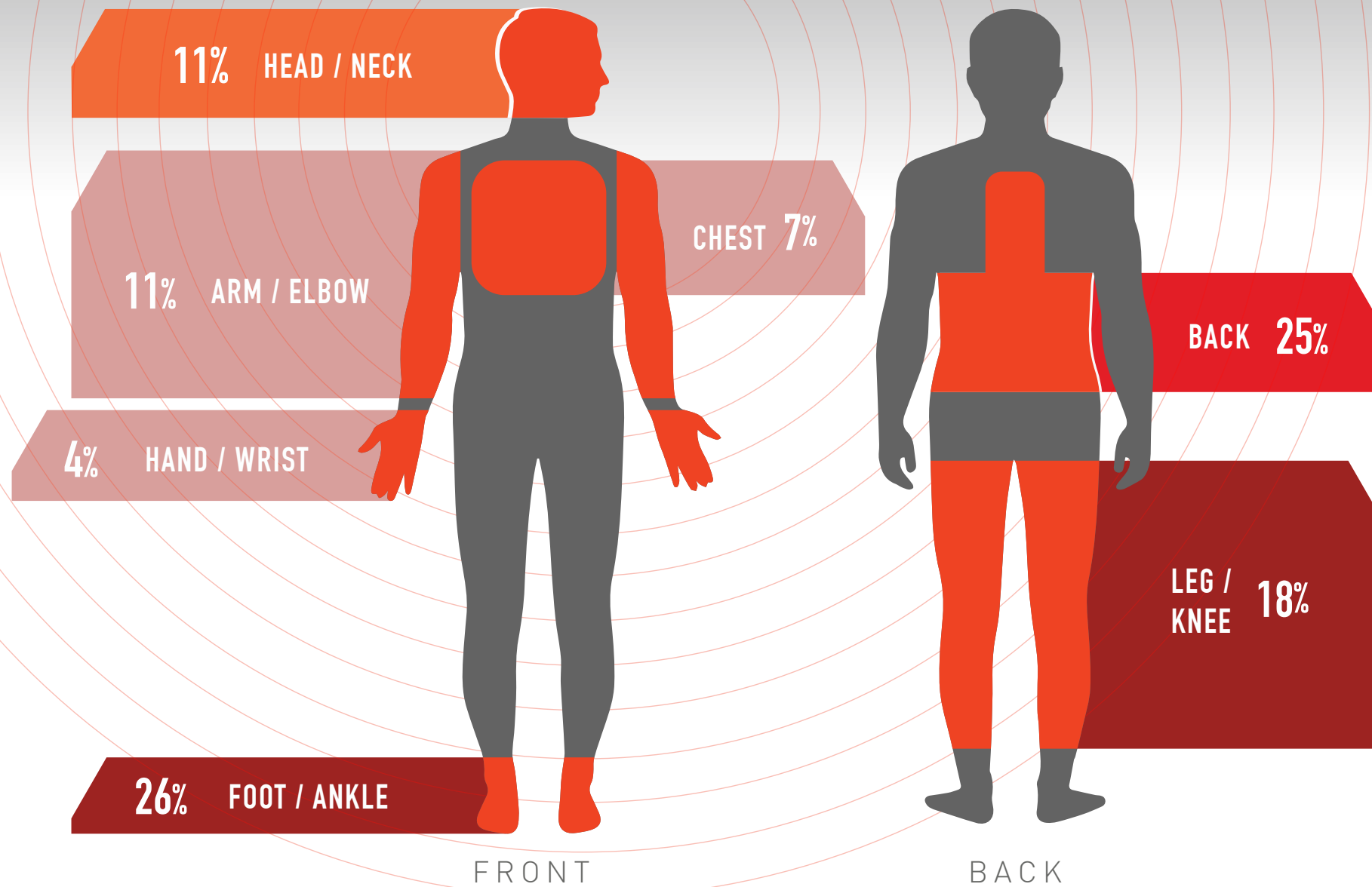


# BREAKDOWN BY TYPE OF INJURY : RISK level RED

**RISK level RED** : Medical leave > 8 days

accidents leading to a work stoppage of more than 8 days

PERCENTAGE OF PILOT INJURIES DEPENDENT ON IMPACT AREA



MEDICAL LEAVE + 8 DAYS

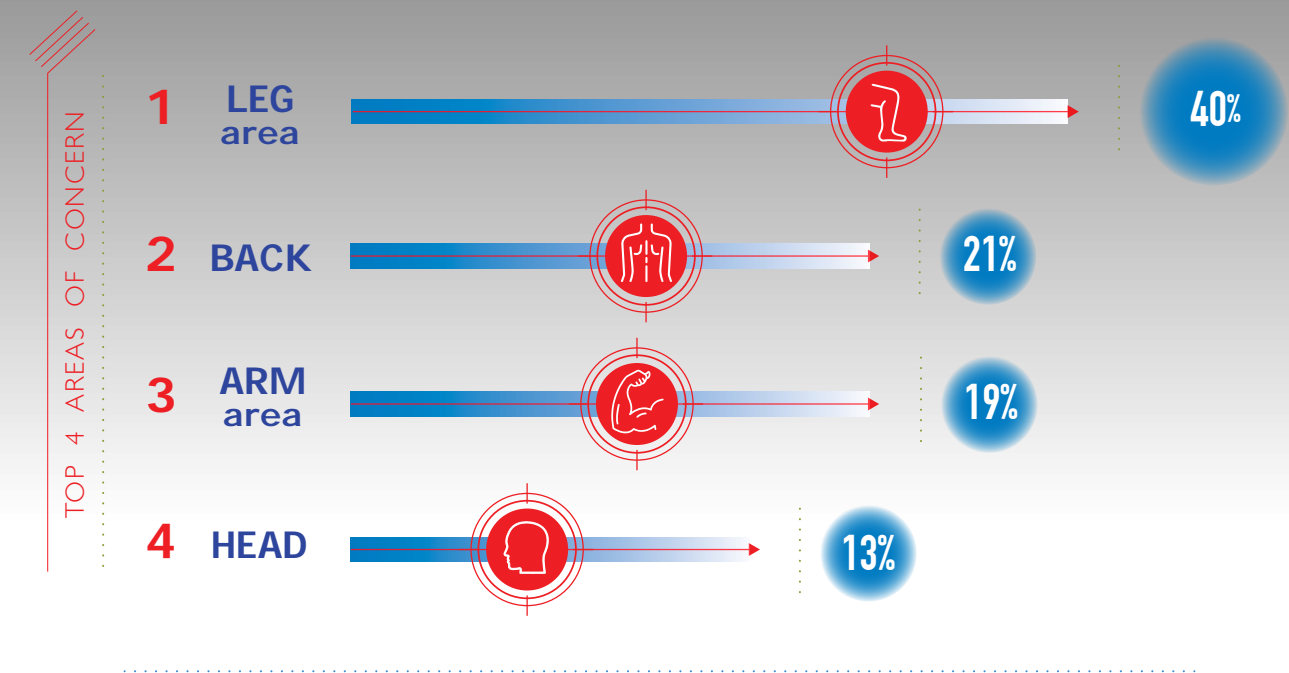
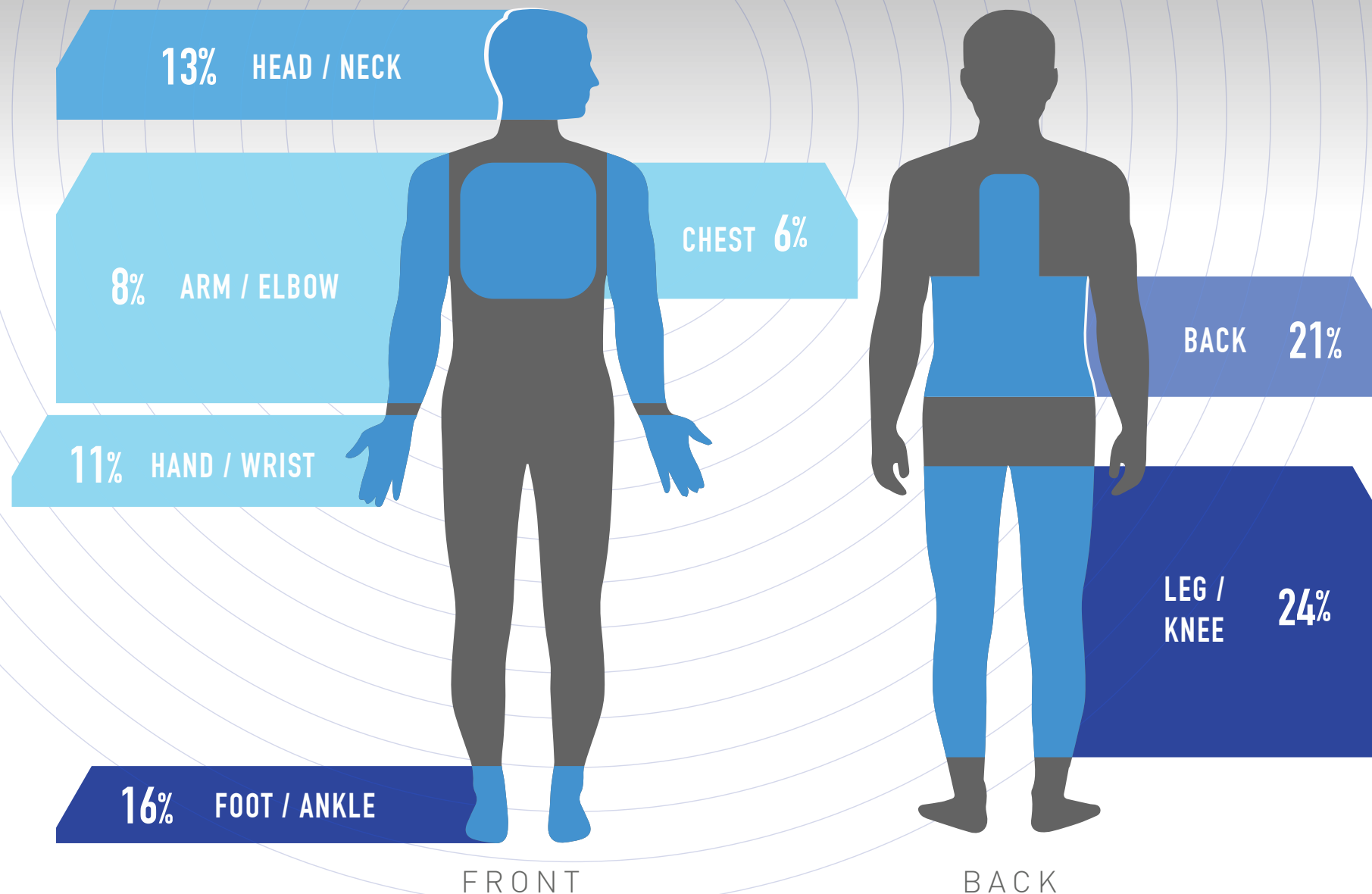


# BREAKDOWN BY TYPE OF INJURY : ALL RISKS COMBINED

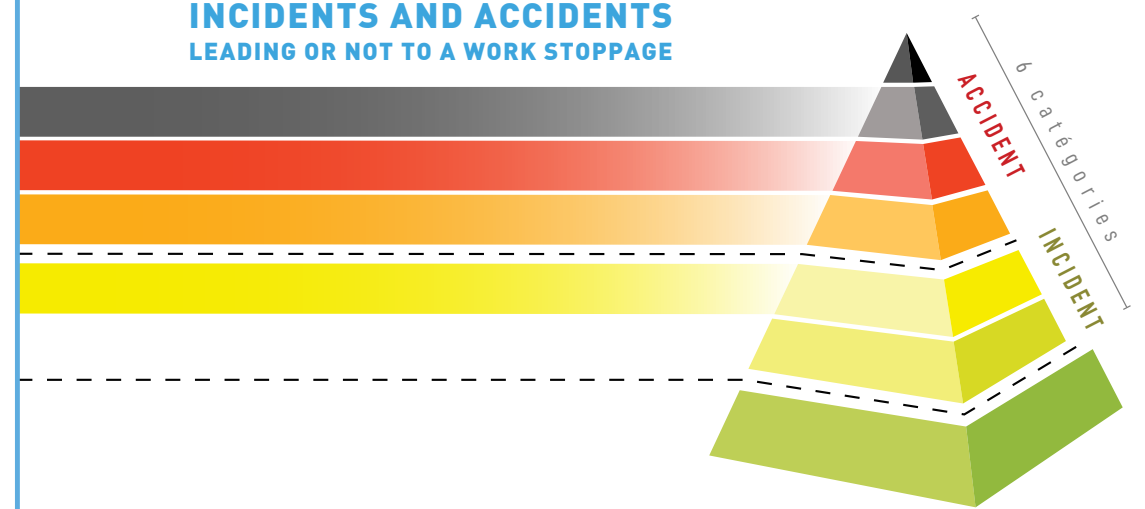
## OVERVIEW FOR ALL RISKS

incidents and accidents leading or not to a work stoppage

PERCENTAGE OF PILOT INJURIES DEPENDENT ON IMPACT AREA



### INCIDENTS AND ACCIDENTS LEADING OR NOT TO A WORK STOPPAGE



# FFPM RECOMMENDATIONS : PERSONAL PROTECTIVE EQUIPMENT



- WEARING A **COMPULSORY LIFEJACKET**, WITH UNDERCUTALE, A LUMINOUS DEVICE AND AN AIS BEACON WITH AUTOMATIC TRIGGERING (INTEGRATED INTO THE LIFEJACKET) ARE AN AID TO THE RECOVERY OF THE MAN OVERBOARD.



- WEARING A **HELMET** IS RECOMMENDED, ESPECIALLY FOR HELICOPTER OPERATIONS



- **SHOES :** SHOES WITH **GOOD TREAD** AND SLIP RESISTANT SOLES  
SAFETY SHOES WITH STEEL TOECAPS ARE NOT NECESSARY,  
THE SHOE MUST REMAIN FLEXIBLE



- HANDS : **WORK GLOVES WITH GRIP** ARE HIGHLY RECOMMENDED, (WITH SLIP-RESISTANT PROPERTIES FOR PROTECTION, DEXTERITY, AND COMFORT)



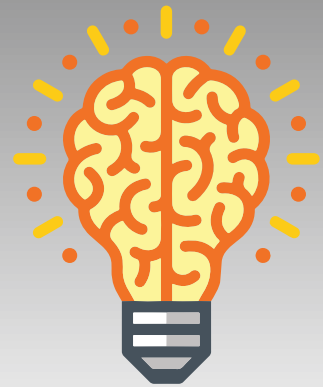
- **PANTS AND LONG-SLEEVED JACKET** ARE RECOMMENDED, TO PROTECT LEGS AND ARMS



- **PORTABLE LAMP** IS RECOMMENDED TO MAKE UP FOR THE LACK OF LIGHTING DURING TRANSIT.



# FFPM RECOMMENDATIONS : ON GOOD PRACTICES



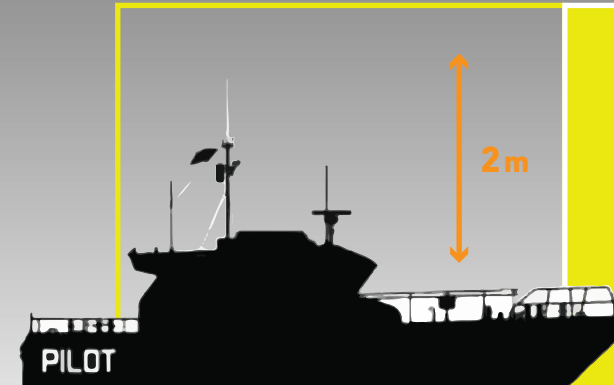
➤ BEFORE ENGAGING IN A MANEUVER, THE PILOT BOAT CREW MUST ALWAYS ASK THE QUESTION OF **HOW TO RECOVER THE PILOT IN THE EVENT OF A FALL OVERBOARD.**



➤ THE PILOT BOAT DRIVER MUST CHECK THAT THE PTA (PILOT TRANSFER ARRANGEMENT) IS COMPLIANT BEFORE THE PILOT LEAVES THE BRIDGE : PILOT STATIONS SHOULD PROVIDE A **CONTINUOUS TRAINING PROGRAM** FOR THIS PURPOSE FOR PILOT BOAT DRIVERS.



➤ IT IS BEST TO WALK ON DECK BY THE **OUTER EDGE OF THE PILOT BOAT.** IT IS BETTER TO GET WET THAN TO BE CRUSHED BETWEEN THE PILOT BOAT AND THE SIDE OF THE SHIP.



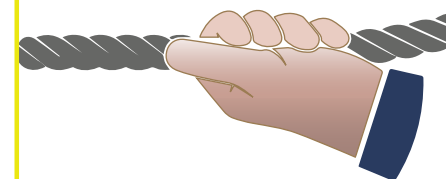
➤ THE PILOT BOAT SHOULD WITHDRAW **IF THE PILOT IS MORE THAN 2 METERS ABOVE THE PILOT BOAT DECK** (20 FALLS ON THE PILOT BOAT DECK WITH SERIOUS CONSEQUENCES; 10 FALLS OVERBOARD WITHOUT SERIOUS INJURY).



➤ **MAN RECOVERY EXERCISES** AT SEA TO BE CARRIED OUT REGULARLY.



➤ IN PORTS WHERE POSSIBLE, **PROVIDE ASSISTANCE "MAN OVERBOARD" BY ANOTHER STATE SERVICE** EQUIPPED WITH NAUTICAL MEANS, AS A BACK-UP MEASURE. (FIREFIGHTERS, COAST GUARDS, PORT AUTHORITY, ETC.).



➤ **BACKPACKS:** FOR SAFETY PURPOSES, HOIST BAG TO DECK FIRST BEFORE EMBARKING OR DISEMBARKING.

# FFPM ACTIONS : TRAINING MOVIE FOR “NEW PILOTS”

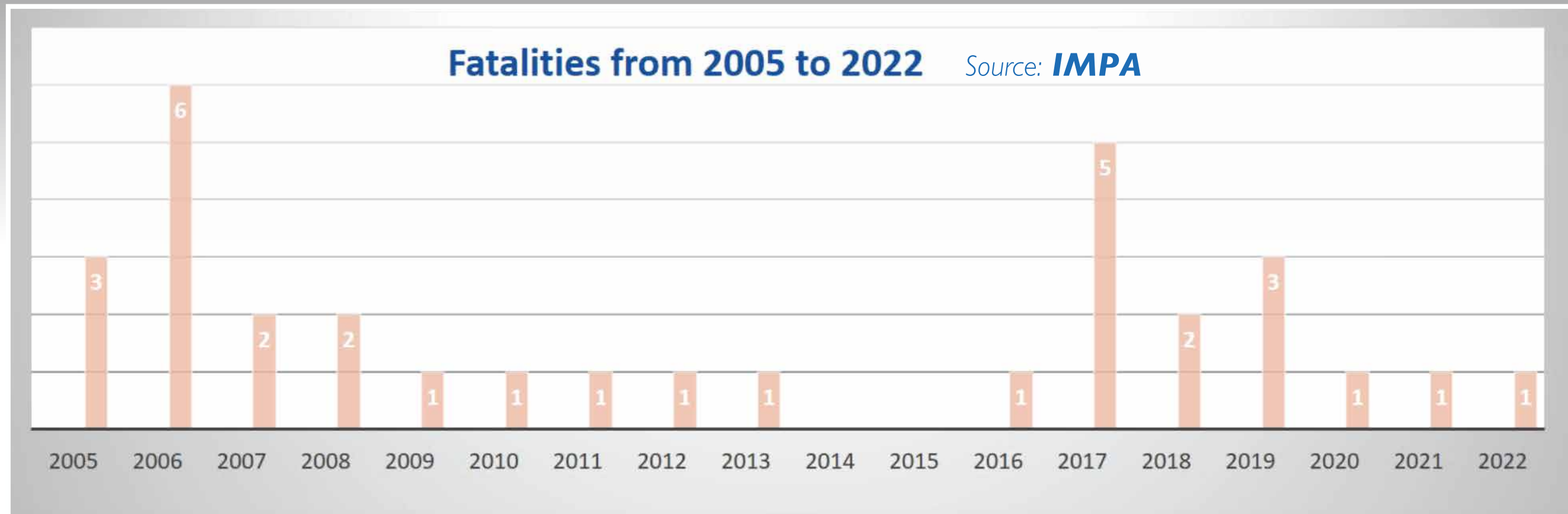
In accordance with the recommendations of the French Bureau of Investigation on Sea Accidents, the FFPM will produce a **training movie in 2022, "Pilot Ladders,"** for new pilots as well as for the new pilot boat drivers. This film can also be shown to guests who occasionally accompany pilots on board ships (journalists, students, etc.). Finally, an informational brochure will also be produced and widely distributed which will provide advice for the concerned public.

After the fall of a pilot when boarding the vessel VAN STAR on 22 April 2021, in the Seine River, the **French Bureau of Investigation on Sea Accidents** issued the following recommendation :  
“2022-R-06 : to encourage stations to provide training for new pilots in order to acquire best practices in the use of the ladder for a safe transfer”.



# CONCLUSIONS: ON THE NUMBER OF DEATHS

➤ The statistical series studied here are too short to make sense (330 pilots – 20 years), so it is the number of deaths of active pilots worldwide (8,360 maritime pilots) that must be taken into consideration:



➤ Total of 32 deaths in 18 years, i.e. 1.8 maritime pilot deaths / year on average for 8360 pilots.

➤ Applied to 100,000, this makes 21.3 deaths / year on average, compared to civil aviation pilots whose the number rises to 50 deaths / year per 100,000 (source: U.S. Bureau of Labor Statistics, period 2012-2017)

# CONCLUSIONS: ON THE NUMBER OF WORK ACCIDENTS

➤ In 2010, the construction sector remained the most exposed sector with 43.3 work accidents per million hours worked, which is double the national average (21.5 accidents / million of hours).  
( <https://www.e-sante.fr/accident-travail-20-metiers-plus-dangereux/actualite/318> )

➤ By way of comparison, we note 5.2 accidents at work (black, red and orange risks levels only) out of 1 million hours worked, i.e. four times less than the national average. This is explained by the professionalism of the pilots and their sailors as well as by the implementation of Quality procedures (ISO 9001 2015 certification from the FFPM and pilot stations in France).



# CONCLUSIONS: ON THE DURATION OF MEDICAL LEAVE ( ACCIDENT SEVERITY INDEX )



➤ 4,500 days off work for only 48 accidents (red and orange risks), i.e. 94 days on average per accident: this is more than 5 times higher than the national average which is 18 days (average duration of sick leave for private sector employees in France from 2012 to 2017, in number of days).

( <https://fr.statista.com/statistiques/539155/employees-privés-duree-moyenne-arret-maladie-france/> )



ACCIDENTOLOGY

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