There were 3,355 fatal accidents at work in the EU during 2020, a decrease of 53 deaths compared with the year before.

In 2020, more than a fifth of all fatal accidents at work in the EU took place within the construction sector.

In 2020, 70% of all accidents at work in the EU caused wounds and superficial injuries, dislocations, sprains and strains, or concussions and internal injuries.

This article presents a set of main statistical findings in relation to indicators concerning non-fatal and fatal accidents at work in the European Union (EU); the statistics presented have been collected within the framework of the European statistics on accidents at work (ESAW) administrative data collection exercise. An accident at work is defined in ESAW methodology as a discrete occurrence during the course of work which leads to physical or mental harm. Fatal accidents at work are those that lead to the death of the victim within one year of the accident taking place. Non-fatal accidents at work are defined as those that result at least four full calendar days of absence from work (they are sometimes also called ‘serious accidents at work’). Non-fatal accidents at work may result in a considerable number of working days being lost and often involve considerable harm for the workers concerned and their families. They have the potential to force people, for example, to live with a permanent disability, to leave the labour market, or to change job.

Number of accidents

In 2020, there were 2.7 million non-fatal accidents that resulted in at least four calendar days of absence from work and 3,355 fatal accidents in the EU (see Table 1), a ratio of approximately 815 non-fatal accidents for every fatal accident. There was a decrease between 2019 and 2020 in the total number of non-fatal accidents at work in the EU, some 405,384 fewer (equivalent to a decrease of 12.9%). There were 53 fewer fatal accidents at work in the EU during 2020 when compared with the year before (equivalent to a decrease of 1.6%). Men were considerably more likely than women to have an accident at work. In 2020, more than two out of every three (66.5%) non-fatal accidents at work in the EU involved men. In 2019 difference was more prominent (68.3%). Factors that influence these statistics are: the proportion of men and women who are in employment; the different types of work that men and women carry out; the activities in which they work. For example, there are far more accidents in the mining, manufacturing or construction sectors, which tend to be male-dominated. However, in 2020 the number of accidents recorded in human health and residential care related activities, which tend to be female-dominated, has increased. Nevertheless, it is generally the case that men tend to work on a full-time basis, whereas women are more likely to work on a part-time basis; as such, with women spending a shorter period of time (on average) in the workplace this may also reduce their chances of having an accident.
Incidence rates

An alternative way to analyse the information on accidents at work is to express the number of accidents in relation to the number of persons employed; this produces a ratio referred to as the incidence rate. In Figures 1 and 2, simple incidence rates are shown relating the number of accidents to the overall number of persons employed. For any given country, these statistics give an indication of the likelihood that someone had an accident.

In 2020, the number of fatal accidents per 100 000 employed persons ranged from less than 1.00 in Finland, Greece, Germany, Sweden and the Netherlands, to 3.00 or more fatal accidents per 100 000 persons employed in Lithuania, Romania, Italy, Bulgaria and Cyprus (see Figure 1). The highest incidence rates among the EU Member States were recorded in Bulgaria and Cyprus, with 3.68 and 4.45 fatal accidents per 100 000 persons employed respectively.

Across the whole of the EU, there were 1.77 fatal accidents per 100 000 persons employed in 2020. As such, fatal accidents at work were therefore relatively rare events and so fatal accidents (and their incidence rates) can vary greatly from one year to the next.
Across the EU, there were 1,444 non-fatal accidents per 100,000 persons employed in 2020. The range for incidence rates among the EU Member States was from less than 100 non-fatal accidents per 100,000 persons employed in Romania and Bulgaria to more than 2,500 per 100,000 persons employed in Denmark and France - see Figure 2. Particularly low incidence rates for non-fatal accidents may reflect an under-reporting problem linked to: poorly-established reporting systems, little financial incentive for victims to report, non-binding legal obligations for the employers, and so on. In the same way, well-established reporting/recognition systems may often explain the high incidence rate in some countries. While the phenomenon of low non-fatal incidence rates can in part be considered to reflect under-reporting the situation for incidence rates of fatal accidents is different as it is much more difficult to avoid reporting a fatal accident.
Standardised incidence rates

When comparing data between countries, incidence rates can be difficult to interpret, for example, when comparing the effectiveness of measures to prevent accidents at work. This is because the likelihood of having an accident is, among other factors, related to the economic activity in which a person works, and the relative importance (weight) of different activities varies between countries according to the structure of each domestic economy.

To account for this, standardised incidence rates are calculated and data for these are shown in Figures 3 and 4. Such rates assume that the relative sizes of economic activities within each national economy are the same as within the EU as a whole. As such, these standardised incidence rates give a more neutral comparison of the health and safety situation in different countries. Note that these standardised incidence rates have a slightly narrower activity coverage than the simple incidence rates, as they exclude the mining and quarrying sector as well as some service activities. Standardised incidence rates only cover NACE Sections A and C-N, thus excluding Sections B and O-U.

On this basis and across the EU, there were, on average, 2.11 fatal accidents per 100 000 persons employed in 2020 (see Figure 3), while there were 1 466 non-fatal accidents per 100 000 persons employed (see Figure 4). In 2020, the highest standardised incidence of fatal accidents at work was recorded in Cyprus (5.12 deaths per 100 000 persons employed), followed by Bulgaria (4.52 deaths per 100 000 persons employed). At the other end of the range, Poland, Greece, Finland, Germany, Sweden and the Netherlands recorded the lowest standardised incidence rates among the EU Member States with fewer than 1.5 fatal accidents per 100 000 persons employed in 2020.
Figure 4 shows that in 2020, the standardised incidence rate of non-fatal accidents at work was generally highest in some of the EU Member States with insurance-based accident reporting systems: Portugal reported 2,814 non-fatal accidents per 100,000 persons employed, followed by France and Spain with respective rates of 2,598 and 2,384 per 100,000 persons employed. Insurance-based accident reporting systems offer a significant financial compensation for the victim when an accident is reported, as opposed to legal obligation systems in which victims are covered by the general social security system. Among the eastern EU Member States, which mostly have legal obligation systems, Slovenia and Estonia were the only countries to report an incidence rate of more than 1,000 non-fatal accidents per 100,000 persons employed, with respective rates of 1,294 and 1,032 per 100,000 persons employed. By far the lowest standardised incidence rates were reported in Bulgaria and Romania, at 87 and 81 non-fatal work accidents respectively per 100,000 persons employed in 2020; again, it should be noted that these values may reflect a relatively high degree of under-reporting.
Analysis by activity

As noted above, one of the main reasons why the incidence of accidents may be higher for men (than for women) is related to the economic activities where they are more likely to work. Indeed, the number of accidents at work varies greatly depending upon the economic activity in question (see Figure 5) and is positively skewed in relation to male-dominated activities.

Within the EU, construction, transportation and storage, manufacturing, and agriculture, forestry and fishing sectors together accounted for around two thirds (63.1 %) of all fatal accidents at work and more than two fifths (44.1 %) of all non-fatal accidents at work in 2020. In 2020, more than one fifth (21.5 %) of all fatal accidents at work in the EU took place within the construction sector, while the manufacturing (15.2 %) had the next highest share. Transportation and storage sector (15.0 %) and agriculture, forestry and fishing (11.4 %) were the only other NACE sections for which double-digit shares of the total number of fatal accidents were recorded.

Non-fatal accidents were relatively common within manufacturing (18.6 % of the total in the EU in 2020), human health and social work activities (15.1 %), construction (12.7 %) and wholesale and retail trade; repair of motor vehicles and motorcycles (12.4 %); these four sections were the only NACE sections to record double-digit shares of the total number of non-fatal accidents.
Analysis by type of injury

Figure 6 presents an analysis of data according to the type of injury sustained when people were involved in accidents. In the EU, there were two types of particularly common injuries in 2020, namely, wounds and superficial injuries (26.8 % of the total) and dislocations, sprains and strains (24.6 %), followed by two other relatively common types, namely concussion and internal injuries (18.6 %) and bone fractures (10.5 %). Poisonings and infections (5.8 %) appears in 2020 among the top five categories. None of the other types of injuries accounted for a double-digit share of the total number of accidents in the EU, with the next highest shares for shocks (3.6 %) and for burns, scalds and frostbites (1.4 %).

Note that the data collected in the context of ESAW also include an analysis of which body parts were injured in accidents (such as the head, neck, back, torso and organs, arms and hands, legs and feet) as well as information on the causes and circumstances of accidents.
Fatal and non-fatal accidents at work by type of injury, EU, 2020
(% of accidents)

- Wounds and superficial injuries
- Dislocations, sprains and strains
- Concussions and internal injuries
- Bone fractures
- Poisonings and infections
- Unspecified
- Shocks
- Other not elsewhere mentioned
- Burns, scalds and frostbites
- Multiple injuries
- Traumatic amputations (loss of body parts)
- Effects of sound, vibration and pressure
- Effects of temperature extremes, light and radiation
- Drownings and asphyxiations

Note: non-fatal (serious) accidents reported in the framework of ESAW are accidents that imply at least four full calendar days of absence from work.
Source: Eurostat (online data code: hsw_n2_07)

Figure 6: Fatal and non-fatal accidents at work by type of injury, EU, 2020 (% of accidents) Source: Eurostat (hsw_n2_07)

Accidents 2010 to 2020

This section looks at relative changes in the number of accidents and their incidence rates for the period from 2010 to 2020. It is also possible to analyse ESAW data over time, with information for all the EU Member States available for the period from 2010 to 2020. Note however, that there were some considerable changes in the way that data were collected during this period and as a result there are a number of breaks in series. This is particularly the case for Belgium, Greece, France, Italy, the Netherlands, Finland and Spain - see the ‘Data sources’ section below for more details.

Figure 7 presents information at a more detailed activity level, namely for NACE divisions. It shows that between 2010 and 2020, both industrial and also service activities accounted for many of the biggest reductions in incidence rates for non-fatal accidents. However, the largest reduction of all was for forestry and logging activities where the incidence rate for non-fatal accidents fell by 2 925 accidents per 100 000 persons employed during the period under consideration. There were three more activities where the incidence rate fell by more than 2 000 per 100 000 persons employed: air transport, employment activities and remediation activities.
The number of accidents in a particular year is likely to be related, at least to some extent, to the overall level of economic activity and the total number of persons in employment, with fewer accidents during periods when there was a contraction in overall levels of economic activity. During the year 2020, as a consequence of lockdown measures imposed against the COVID-19 pandemic, economic activity contracted sharply. This might explain the reduction in the incidence rates related to civil engineering or construction of buildings and the increases reported for human health activities and residential care activities.

Figure 8 shows the five NACE sections with the highest risk levels for accidents at work in the EU, namely, agriculture, forestry and fishing (NACE Section A), manufacturing (NACE Section C), construction (NACE Section F), wholesale and retail trade (NACE Section G) and transportation and storage (NACE Section H). Between 2010 and 2020, there was a reduction in the number of fatalities at work in the EU for all five of these activities. Agriculture, construction as well as transportation and storage recorded the smallest reduction in fatalities from accidents at work (in relative terms). By contrast, the largest absolute reduction in fatalities from accidents at work was in the EU’s construction sector, where there were 309 fewer in 2020 than there had been in 2010. As such, the number of fatalities in the construction sector declined by 30.9 %, while there was a slightly larger relative reduction in fatalities for the EU’s agriculture, forestry and fishing sector (down 33.5 % during the period under consideration).
Figure 8: Development of fatal accidents at work for the five NACE sections with the highest risk levels, EU, 2010-2020 (persons)

Source: Eurostat (online data code: hsw_n2_07)

Figure 9 complements the information shown in Figure 8, presenting a similar analysis for non-fatal accidents. Across the EU, the total number of non-fatal accidents declined for each of the five NACE sections when comparing the levels of accidents at work in 2010 with 2020. The greatest reductions in non-fatal accidents across the EU were recorded for manufacturing (242 000 fewer non-fatal accidents) construction (down 136 000) and wholesale and retail trade (down 119 000).

Between 2010 and 2020, the number of non-fatal accidents at work in the EU fell by almost one third in the manufacturing sector (down 32.7 %), while there were also relatively large falls in the number of non-fatal accidents at work for agriculture, forestry and fishing (down 30.9 %) and construction (down 28.6 %).
The final analysis is presented for NACE divisions, detailing those activities with the highest/lowest relative changes in their incidence rates for non-fatal accidents between 2010 and 2020.

Across the EU, the number of non-fatal accidents per 100 000 persons employed fell by 19.7 % across all activities. The largest contractions - more than 60 % overall during the period under consideration (see Figure 10) - were for: air transport, publishing activities, extraction of crude petroleum and natural gas, information service activities and programming and broadcasting activities and information service activities (which recorded the largest decline, down 70.0 %).

The incidence of non-fatal accidents in the EU increased greatly between 2010 and 2020 for: human health activities (up 42.8 %), veterinary activities, motion picture, video and television programme production, sound recording and music publishing activities, crop and animal production, hunting and related service and residential care activities (up 15.9 %).
Development of non-fatal accidents at work for the five NACE divisions with the highest and lowest relative changes in incidence rates, EU, 2010-2020

(incidence rates per 100,000 persons employed)

Figure 10: Development of non-fatal accidents at work for the five NACE divisions with the highest and lowest relative changes in incidence rates, EU, 2010-2020 (incidence rates per 100,000 persons employed)

Source: Eurostat (hsw_n2_01)

Source data for tables and graphs

- Accidents at work: tables and figures

Data sources

In December 2008, the European Parliament and the Council adopted Regulation (EC) No 1338/2008 on Community statistics on public health and health and safety at work. The Regulation is designed to ensure that health statistics provide adequate information for all EU Member States to monitor Community actions in the field of public health and health and safety at work. In April 2011, a European Commission Regulation (EU) No 349/2011 on statistics on accidents at work was adopted specifying in detail the variables, breakdowns and metadata that EU Member States are required to deliver; this legislation is being implemented in a number of phases.

European statistics on accidents at work (ESAW) is the main data source for EU statistics relating to health and safety at work. ESAW includes data on occupational accidents that result in at least four calendar days of absence from work, including fatal accidents. The phrase ‘during the course of work’ means while engaged in an occupational activity or during the time spent at work. This generally includes cases of road traffic accidents in the...
The statistics presented for accidents at work refer to declarations made either to public (social security administrations) or private insurance schemes, or to other relevant national authorities (for example, those controlling labour or workplace inspections). Indicators on accidents at work may be presented as absolute values, as percentage distributions, as incidence rates in relation to every 100 000 persons employed (the denominator being provided by the authorities in the EU Member States that are responsible for ESAW data collection or by the EU's labour force survey (LFS)) or as standardised incidence rates.

The data generally relate to all economic activities, unless otherwise specified. For example, the analyses in Figures 3 and 4 cover NACE Sections A and C to N. Because the frequency of accidents at work varies between NACE activities - high risk activities include: agriculture, forestry and fishing, manufacturing, construction, wholesale and retail trade, and transportation and storage - a standardisation procedure is performed to facilitate the comparison of national data. A direct standardisation method is used with weights calculated for the European reference population: the weights represent the proportion of the reference (working) population in each NACE activity. For each EU Member State, the national incidence rates are calculated for each NACE activity and these are combined using the fixed set of EU weights to produce an overall standardised incidence rate for the Member State concerned. More details are available in a methodological note.

Statistics on accidents at work may reflect under-coverage or under-reporting. Under-coverage exists when the appropriate population is not covered by the data source for accidents, for example when a certain economic sector or employment type is excluded. Under-reporting relates to the situation where an accident occurs but is not reported although the related economic sector is included. The extent of under-coverage of ESAW data can be analysed partially by comparing the reference population (of workers) in ESAW with data derived from the LFS. Under-reporting is more difficult to analyse and establish but some comparisons are available. One method is to compare results from the reporting systems used for the legal obligation to report an accident with systems based on insurance reports; this may indicate under-reporting in the system for the legal obligation of accidents or over-reporting in insurance systems. Another method is to compare (geographically or over time) the ratio of fatal with non-fatal accidents, as the reporting of fatal accidents is thought to be more likely to be accurate due to their severe nature. Comparisons can also be made with data from household surveys, for example from the LFS (which includes periodic ad hoc modules on accidents at work and work-related health problems).

In addition, changes in the way data are collected and processed in the EU Member States may have an influence on the number and incidence of accidents at work in a particular year. For example, on 30 June 2016 a number of derogations from provisions in the EU regulation governing ESAW ended in several of the Member States. This had a significant effect on the data concerning accidents at work for reference year 2014. For example, for the first time French data included full coverage of all employees in economic sectors covered by NACE Sections A-S. This led to a substantial apparent increase in the number of accidents recorded in France (compared with 2013). In a similar vein, the 2014 data for Belgium included information pertaining to accidents in the public sector for the first time and this also resulted in an increase in the reported number of accidents. In 2016, some correction factors were removed from Greek data by the national statistical office due to methodological issues which caused a very considerable reduction in the number of accidents reported for reference year 2014 (compared with 2013); it is expected that a more complete Greek dataset will be received in the coming years, which should lead to a higher number of reported accidents again. Finally, Dutch and Norwegian data (the latter are not included in the EU total) for the 2014 reference year for non-fatal accidents displayed a significant decrease due to methodological issues.

**Context**

A safe, healthy working environment is a crucial factor in an individual's quality of life and is also a collective concern. Governments in the EU Member States recognise the social and economic benefits of better health and safety at work. Reliable, comparable, up-to-date statistical information is vital for setting policy objectives and adopting suitable policy measures and preventative actions.

The Treaty on the Functioning of the European Union (Article 153) states that "[...] the Union shall support and complement the activities of the Member States in the following fields: (a) improvement in particular of the working environment to protect workers' health and safety; [...]".

The main principles governing the protection of workers' health and safety are laid down in a 1989 framework Directive (89/391/EEC), the basic objective of which is to encourage improvements in occupational health and
safety. All sectors of activity, both public and private, are covered by this legislation, which establishes the principle that the employer has a duty to ensure workers’ health and safety in all aspects relating to work, while the worker has an obligation to follow the employer’s health and safety instructions and report potential dangers.

Within this field, the European Commission’s policy agenda for the period 2021-2027 was set out in the Communication EU strategic framework on health and safety at work for 2021-2027 ( COM(2021) 323 final ), which outlined three major challenges: anticipating and managing change in the new world of work brought about by the green, digital and demographic transitions; improving prevention of workplace accidents and illnesses; increasing preparedness for any potential future health crises. This framework is designed to ensure that the EU continues to play a leading role in the promotion of high standards for working conditions within Europe (as well as wider afield).

At the time of writing, the COVID-19 pandemic highlighted the crucial importance of health policy, including health and safety at work. The European Commission is working towards providing strategic policy orientations that will contribute to the improvement of the health and safety of workers across Europe. This is particularly important with respect to a new set of risks, such as those resulting from new ways of working, new technologies and digitalisation, or the impact of the COVID-19 pandemic and associated containment measures, alongside more traditional concerns, such as exposure to dangerous substances and the risk of accidents at work.

At the beginning of the COVID-19 pandemic, preventive measures were put in place with the aim of limiting the spread of the Coronavirus and to combat the epidemic. Amongst these, some working activities were either completely stopped or restricted by many employers. In some cases, the employers applied the method of working remotely or working from home. This had a direct impact on all economic sectors. For the economic sectors where the activity was stopped or reduced, the number of accidents decreased. Inactivity or reduced activity in certain sectors resulted in decreased number of workers, and therefore showed unusual decrease in reported accidents at work. On the opposite end, in certain sectors COVID-19 pandemic generated an increase in the activity, for example, human health activities, residential care activities or social work activities without accommodation. Therefore, the increased activity generated generally higher numbers of reported accidents at work, especially when the cases of COVID-19 of occupational origin were included according to the national practice and legislation. Public services that deal with the administrations in charge of receiving notifications, reporting, investigations and recognition of accidents at work could have functioned with limited capacities. The impact of all the actions described above, led to a decrease in the reported number of accidents at work in the data collection for the reference year 2020 (compared with the previous reference year), for the majority of the ESAW reporting countries.

Other articles

- Accidents and injuries statistics
- Accidents at work - statistics by economic activity
- Accidents at work - statistics on causes and circumstances
- Health in the European Union - facts and figures - online publication
- Health statistics introduced

Database

- Health, see:

Health and safety at work (hsw)

Accidents at work (ESAW, 2008 onwards) (hsw_acc_work)
  Main indicators (hsw_mi)
  Details by NACE Rev. 2 activity (2008 onwards) (hsw_n2)
  Causes and circumstances of accidents at work (ESAW phase III) (hsw_ph3)
Accidents at work (ESAW) - until 2007 (hsw_acc7_work)
Accidents at work and other work-related health problems (source LFS) (hsw_apex)
Work related health problems and accidental injuries - LFS 1999 (hsw_inj_pb)

Dedicated section
• Health

Methodology
ESMS metadata files
• Accidents at work (ESAW, 2008 onwards) (ESMS metadata file - hsw_acc_work_esms)

Publication
• European statistics on accidents at work (ESAW) - Summary methodology - 2013 edition

External links
• European Agency for Safety and Health at Work
• European Commission - Employment, Social Affairs and Inclusion - Health and safety at work
• European Commission - Employment, Social Affairs and Inclusion - Health and safety at work - EU strategic framework (2021-2027)
• European Foundation for the Improvement of Living and Working Conditions (EUROFOUND) - Health and well-being at work
• International Labour Organisation (ILO) - Safety and health at work