

ECCAIRS 4.2.8

Data Definition Standard

Explanatory Factors

The ECCAIRS 4 explanatory factors are based on ICAO's ADREP 2000 taxonomy. They have been organised at five hierarchical levels. An event can be defined at each desired level. For each element three descriptions are given: detailed description (the complete name of the element), short description (the name of the element as to be presented on screen or in the reports, normally in the context of the section and with a limited length) and finally explanation (the formal definition/explanation of the element including references to where it has been defined etc.)

ID	Detailed description	Short description
<i>Explanation</i>		
ID	Detailed description	Short description
<i>Explanation</i>		
ID	Detailed description	Short description
<i>Explanation</i>		
ID	Detailed description	Short description
<i>Explanation</i>		
ID	Detailed description	Short description
<i>Explanation</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
100000000	Liveware (human)	Liveware (human)
<i>Factors related to the human being.</i>		
101000000	Personal physical or sensory limitations	Physical/sensory limits
<i>Factors related to a person's physical or sensory limitations, not including physiological, psychological or visual illusions.</i>		
101010000	Personal physical characteristics	Physical characteristics
<i>Factors related to a person's physical characteristics, e.g. anthropometrics, strength, weight and age.</i>		
101010100	Personal age and physical limitations	Age/physical limitations
<i>Factors related to a person's physical limitations associated with age, e.g. slowed reaction times (not including psychological aspects associated with age).</i>		
101010200	Personal anthropometrics	Personal anthropometrics
<i>Factors related to a person's anthropometrics, e.g. reach, visual field. That is involving a person outside the percentile range for which the equipment or working environment was designed.</i>		
101010201	Personal size	Personal size
<i>Factors related to a person's size.</i>		
101010202	Personal reach	Personal reach
<i>Factors related to a person's reach.</i>		
101010203	Personal strength	Personal strength
<i>Factors related to a person's strength.</i>		
101010204	Personal mass	Personal mass
<i>Factors related to a person's mass.</i>		
101020000	Human sensory limitations	Human sensory limitations
<i>Factors related to limitations in any of the human senses e.g. sight and touch.</i>		
101020100	Vision	Vision
<i>Factors related to vision.</i>		
101020101	Uncorrected vision failure to wear glasses	Uncorrected vision
<i>Factors related to uncorrected vision, or failure to wear glasses/lenses when required to do so.</i>		
101020102	Colour vision	Colour vision
<i>Factors related to a person's colour vision.</i>		
101020103	Empty field myopia	Empty field myopia
<i>Factors related to empty field myopia i.e. the tendency of the eye to focus at a fixed distance when not stimulated.</i>		
101020200	Hearing	Hearing
<i>Factors related to hearing.</i>		
101020300	Vestibular function	Vestibular function
<i>Factors related to limitations pertaining to the vestibule of the ear or its function as an organ of equilibrium.</i>		
101020400	G tolerance	G tolerance
<i>Factors related to tolerance of high g (mainly associated with military aircraft).</i>		
101020500	Proprioception	Proprioception
<i>Factors related to proprioception. Proprioceptive illusion rarely occur alone. They are closely associated with the vestibular system and to a lesser degree, with the visual system. The proprioceptive information input to the brain may lead to a false perception of true vertical. During manoeuvres proprioceptive information is fed into the central nervous system. Without visual reference the pilot only senses being pressed firmly into the seat. Because this sensation is normally associated with a climb the pilot may interpret it as such.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
101020600	Mandelbaum effect on humans	Mandelbaum effect
<i>Factors related to the Mandelbaum effect, i.e. the tendency of the eye to approach "resting" accommodation under conditions of poor visibility. Since resting accommodation is approximately one metre objects outside the windscreen will be out of focus. Accommodation is the physiological process by which the eye brings objects at different distances into focus.</i>		
101020700	Sensory threshold	Sensory threshold
<i>Factors related to a person's sensory threshold.</i>		
101030000	Other human physical limitations or characteristics	Other physical limits
<i>Factors related to physical limitations or characteristics not listed above.</i>		
102000000	Human physiology	Human physiology
<i>Factors related to physiological conditions of persons. Physiology is the science of the normal functions and phenomena of living things. Physiology comprises the two divisions of animal and vegetable physiology; that part of the former which refers specially to the vital functions in man is called human physiology.</i>		
102010000	Illness/incapacitation	Illness/incapacitation
<i>Factors related to physiological problems, including illness, incapacitation, general well-being, health, fitness, fatigue, stress and visual illusions.</i>		
102010100	Mortality	Mortality
<i>Factors related to a person who has died.</i>		
102010200	Illness	Illness
<i>Factors related to illnesses in general.</i>		
102010201	Illness gastro-enteritis/food poisoning	Illness-food poisoning
<i>Factors related to gastro-enteritis/food poisoning.</i>		
102010202	Vertigo/dizziness	Vertigo/dizziness
<i>Factors related to illness resulting in vertigo/dizziness. Vertigo is a spinning sensation usually caused by a peripheral vestibular abnormality in the middle ear.</i>		
102010300	Pre-existing injury	Pre-existing injury
<i>Factors related to a pre-existing injury which may have contributed to the occurrence. N.B. do not include injuries arising from an occurrence unless they contributed to a further problem.</i>		
102010400	Heart attack	Heart attack
<i>Factors related to a heart attack.</i>		
102010500	Hypoxia/anoxia	Hypoxia/anoxia
<i>Factors related to hypoxia/anoxia. That is reduced oxygen to the eyes and brain, resulting in symptoms such as: euphoria, confusion, impaired judgement, aggressiveness, blurring, tunnel vision, dizziness, increased respiration and loss of consciousness.</i>		
102010600	Hyperventilation	Hyperventilation
<i>Factors related to hyperventilation. That is an increased or excessive exposure of the lungs to oxygen, resulting in a more rapid loss of carbon dioxide from the blood; the action of bringing this about in oneself, by deep or rapid breathing, or in another individual.</i>		
102010700	Carbon monoxide poisoning	Carbon monoxide poisoning
<i>Factors related to carbon monoxide poisoning.</i>		
102010800	Reaction to toxic fumes	Reaction to toxic fumes
<i>Factors related to effects of toxic fumes.</i>		
102010900	Loss of consciousness/fainting	Loss of consciousness
<i>Factors related to loss of consciousness/fainting.</i>		

102011000	Motion sickness	Motion sickness
<i>Factors related to motion sickness.</i>		
102011100	Visual disturbance	Visual disturbance
<i>Factors related to visual disturbance, including visual interference associated with migraine.</i>		
102011200	Human impairment-decompression/diving	Impairment-diving
<i>Factors related to decompression/diving, which may have contributed to the occurrence.</i>		
102011201	Impairment-decompression	Impairment-decompression
<i>Factors related to decompression impairment.</i>		
102011202	Impairment-trapped gas effects	Impairment-trapped gas
<i>Factors related to impairment due to trapped gas effects.</i>		
102011203	Impairment-underwater diving	mpairment-underwater diving
<i>Factors related to underwater diving.</i>		
102011300	Medical history	Medical history
<i>Factors related to medical history, e.g. history of heart problems.</i>		
102020000	Human impairment-health/fitness/lifestyle	Impairment-fitness lack
<i>Factors related to general health/fitness/lifestyle, as opposed to specific illness or incapacitation.</i>		
102020100	Impairment-stress symptoms	Impairment-stress
<i>Factors related to stress symptoms.</i>		
102020200	Impairment-degree of fitness	Impairment-fitness
<i>Factors related to fitness.</i>		
102020300	Impairment-degree of obesity	Impairment-obesity
<i>Factors related to obesity, e.g. leading to illness or resulting in anthropometric problems.</i>		
102020400	Impairment-diet/meals/meal breaks	Impairment-food intake
<i>Factors related to general diet, or short term problems associated with food/meals e.g. inadequate meal breaks.</i>		
102020500	Impairment-blood/sugar level	Impairment-blood/sugar
<i>Factors related to blood/sugar level.</i>		
102020600	Impairment-chronic alcohol abuse	Impairment-use of alcohol
<i>Factors related to a long term alcohol problem.</i>		
102020700	Impairment-alcohol/blood level	Impairment-alcohol level
<i>Factors related to excessive alcohol in the blood as evidenced from tests.</i>		
102020800	Impairment-alcohol consumption	Impairment-alcohol intake
<i>Factors related to known or suspected impairment of performance as a result of alcohol intake.</i>		
102020900	Impairment-alcohol hangover	Impairment-alcohol effect
<i>Factors related to known or suspected impairment of performance as a result of a hangover.</i>		
102021000	Impairment-self medication	Impairment-self treatment
<i>Factors related to the use of readily available medication, e.g. melatonin, not on the barred list, which may have affected performance.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
102021100	Impairment-prescription medication	Impairment-prescription
<i>Factors related to prescription medication affecting performance.</i>		
102021200	Impairment-barred drugs	Impairment-barred drugs
<i>Factors related to evidence/suspicion of the use of barred medication/substances.</i>		
102021300	Impairment-stimulants	Impairment-stimulants
<i>Factors related to evidence/suspicion of the use of stimulants.</i>		
102021400	Impairment-illicit drugs	Impairment-illicit drugs
<i>Factors related to evidence/suspicion of the use of illicit drugs.</i>		
102021500	Impairment-blood donation	Impairment-blood donation
<i>Factors related to a blood donation, which may have affected performance.</i>		
102021600	Impairment-disease	Impairment-disease
<i>Factors related to any disease which may have affected performance.</i>		
102021700	Impairment-pain	Impairment-pain
<i>Factors related to any pain which may have affected performance.</i>		
102021800	Impairment-tobacco smoking	Impairment-smoking
<i>Factors related to smoking and health problems associated with smoking, e.g. susceptibility to hypoxia, stress experienced by not being able/allowed to smoke or absence at a critical time due to a smoke break.</i>		
102021900	Impairment-predisposing condition	Impairment-predisposition
<i>Factors related to any pre-disposing condition which may have affected performance.</i>		
102022000	Impairment-psychological condition	Impairment-psychological
<i>Factors related to known or suspected medical psychological condition/neurotic disorder e.g. depression, fear of heights or other phobia.</i>		
102022100	Impairment-other health/fitness issues	Impairment-other fitness
<i>Factors related to health/fitness problems, which may have affected performance, other than those listed above.</i>		
102022200	Impairment-other lifestyle	Impairment-other living
<i>Factors related to other lifestyle issues which may have affected performance.</i>		
102030000	Human fatigue/alertness	Human fatigue/alertness
<i>Factors related to fatigue/alertness generally. Fatigue can be defined as: "diminished productivity, efficiency, or ability to carry on work, because of a previous expenditure of energy in doing work" (usually after a prolonged spell of work).N.B. fatigue differs from boredom.</i>		
102030100	Fatigue-falling asleep	Fatigue-falling asleep
<i>Factors related to a person falling asleep.</i>		
102030200	Fatigue-acute	Fatigue-acute
<i>Factors related to acute fatigue, i.e. extreme fatigue associated with this one instance.</i>		
102030300	Fatigue-chronic	Fatigue-chronic
<i>Factors related to chronic fatigue, i.e.. frequently experienced fatigue over a long period of time (weeks/months).</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
102030400	Fatigue-circadian disrhythmia (jet lag)	Circadian disrhythmia
<i>Factors related to fatigue/alertness caused by jet lag.</i>		
102030500	Fatigue-rest/duty time	Fatigue-rest/duty time
<i>Factors related to fatigue/alertness caused by inadequate rest periods, or inadequate rest/duty time schedules.</i>		
102030600	Fatigue-sleep deficit	Fatigue-sleep deficit
<i>Factors related to a sleep deficit affecting performance. N.B. this differs from fatigue in that sleep deficit affects preparedness for work irrespective of any subsequent task demands, whereas fatigue is a combination of task demands and preparedness/fitness for work.</i>		
102030700	Fatigue-sleep disorder	Fatigue-sleep disorder
<i>Factors related to fatigue/alertness caused by a sleep disorder, e.g. inability to sleep soundly.</i>		
102030800	Fatigue-sleep disruption	Fatigue-sleep disruption
<i>Factors related to fatigue/alertness caused by sleep disruption, e.g. caused by a noisy hotel or telephone calls.</i>		
102030900	Fatigue-other	Fatigue-other
102040000	Human vestibular or visual illusions	Human illusions
<i>Factors related to human vestibular or visual illusions.</i>		
102040100	Human vestibular illusions generally	Vestibular illusions
<i>Factors related to human vestibular illusions generally. Vestibular illusions, i.e. of or pertaining to the vestibule of the ear or its function as an organ of equilibrium.</i>		
102040101	Coriolis vestibular illusions	Coriolis illusion
<i>Factors related to Coriolis vestibular illusions. The Coriolis illusion is the most dangerous of all vestibular illusions because it causes overwhelming disorientation. It gives the pilot a sensation of motion on another axis. The illusion is caused by any abrupt head movement, in a different geometrical plane, during a constant rate turn.</i>		
102040102	Elevator vestibular illusions	Elevator illusion
<i>Factors related to elevator vestibular illusions. The elevator illusion is caused by a rapid upward acceleration of the aircraft. Inertia causes the pilot's eyes to track downwards as his body tries, through inputs supplied by the inner ear, to maintain visual fixation on the environment or instrument panel. The displacement of the eyes gives the pilot a sense that the nose of the aircraft is rising even though the aircraft remains in level attitude.</i>		
102040103	"Giant-hand" vestibular illusion	"Giant-hand" illusion
<i>Factors related to giant-hand vestibular illusions. A pilot suffering from the "giant hand" illusion perceives that the aircraft is not responding properly to his control inputs, as every attempt to bring the aircraft to the desired attitude, appears to be resisted by a tendency to fly back to another, more stable attitude e.g. a pilot experiencing disorientation about the roll axis may feel a force-like a giant hand-trying to push one wing down and hold it there.</i>		
102040104	Somatogravic/acceleration vestibular	Somatogravic illusion
<i>Factors related to mistaking acceleration for pitch. Somatogravic illusions are caused by changes in linear accelerations and decelerations or gravity that stimulate the otolith organs. The three types of somatogravic illusions that can be encountered in flight are oculoagravic, elevator and oculoagravic</i>		
102040105	Somatogyral vestibular illusion	Somatogyral illusion
<i>Factors related to somatogyral illusions. Somatogyral illusions are caused when angular accelerations and decelerations stimulate the semicircular canals. Those that may be encountered in flight are Coriolis illusions, graveyard spin and the leans.</i>		
102040106	The leans vestibular illusion	The "leans" illusion
<i>Factors related to feeling of "leaning", when the aircraft is level after a gentle turn. This illusion occurs when the pilot fails to perceive angular motion e.g. in a slow roll the pilot may fail to perceive that the aircraft is no longer upright even though the attitude indicator shows that the aircraft is in a bank. When the pilot rolls out of the bank he may perceive, erroneously, that the aircraft is banking in the opposite direction.</i>		

102040200	Human visual illusions	Human visual illusions
<i>Factors related to visual illusions generally.</i>		
102040201	Black hole visual illusions	Black hole
<i>Factors related to black hole illusion e.g. descending below the approach path when there are no visual points of reference before the runway threshold on a night approach.</i>		
102040202	Flicker vertigo visual illusions	Flicker vertigo
<i>Factors related to flicker vertigo. Flicker vertigo is not an illusion; however viewing a flickering light can be both distracting and annoying. Helicopter rotor blades, or aircraft propeller blades, interrupting direct sunlight at a rate of 4 to 20 cycles per second, may create flicker vertigo. Flashing anti-collision strobe lights, especially while the aircraft is in the clouds, can also produce this effect.</i>		
102040203	Landing visual illusions	Landing visual illusions
<i>Factors related to landing illusions, e.g. believing the aircraft to be higher than normal because the runway is narrower than usual.</i>		
102040204	Geometric perspective visual illusions	Perspective illusion
<i>Factors related to geometric perspective illusions, e.g. interpreting a sloping cloud bank as a level horizon.</i>		
102040205	Auto kinesis visual illusions	Auto kinesis illusion
<i>Factors related to auto kinesis. Auto kinesis occurs primarily at night when ambient visual cues are minimal and a small, dim light is seen against a dark background. After about 6 to 12 seconds of fixating visually on the light, a pilot perceives movement at up to 20 degrees in any particular direction or in several directions in succession, although there is no actual displacement of the object. This illusion may allow an aviator to mistake the object fixated as another aircraft.</i>		
102040206	Visual illusions-other	Visual illusions-other
<i>Factors related to human visual illusions other than those listed above.</i>		
102040300	Illusions other than those listed above	Illusions-other
<i>Factors related to human illusions other than those listed above.</i>		
102050000	Physiological limitations-other	Physiological limit-other
<i>Factors related to a physiological limitation other than those listed above.</i>		
103000000	Psychological limitations	Psychological limitations
<i>Factors related to anything which involves thinking or acting (not including physiological issues) such as learning, memory, personality or attitudes.</i>		
103010000	Action or lack of action	Action or lack of action
<i>Factors related to an action, series of actions, or lack of action which was, or may have been, a contributory factor.</i>		
103010100	Psychological action-slip (correct intention; faulty)	Action-slip
<i>Factors related to a slip (correct intention; faulty action).</i>		
103010200	Psychological action-lapse/omission/memory	Action-lapse/omission
<i>Factors related to a failure to carry out a particular action, e.g. missing one step in a sequence from a checklist or forgetting to do something.</i>		
103010300	Psychological action-mistake (faulty plan/intention)	Action-mistake
<i>Factors related to a mistake; intending to do something without appreciating that it is incorrect, e.g. entering FL150 when the clearance was for FL140.N.B. the difference between a mistake, a slip and a lapse is not always clear-cut.</i>		
103010400	Psychological action-procedure violation	Procedure violation
<i>Factors related to deliberate failure to follow the rules/procedures (whether well intentioned or not).</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
103010500	Psychological action or error-timing	Timing
<i>Factors related to action inappropriately timed, e.g. too late, too early, delayed or coinciding with other tasks.</i>		
103010600	Psychological action or error-third party	Third party
<i>Factors related to action by a third party, e.g. a passenger or observer.</i>		
103010700	Psychological action or error-other	Psychological error-other
<i>Factors related to psychological action or error other than those listed above.</i>		
103020000	Psychological action-planning	Psychological planning
<i>Factors related to planning of operational tasks - flight, route, air traffic control or maintenance.</i>		
103020100	Psychological action-flight planning	Flight planning
<i>Factors related to flight planning generally.</i>		
103020101	Psychological action-pre-flight planning	Pre-flight planning
<i>Factors related to pre-flight planning, e.g. fuel load, route or diversion aerodromes.</i>		
103020102	Psychological action-in-flight planning	In-flight planning
<i>Factors related to in-flight planning, e.g. change of plans in response to weather or planning for even distribution of workload.</i>		
103020200	Psychological action-preparedness	Action-preparedness
<i>Factors related to preparation or planning issues (e.g. diversion aerodromes, knowledge of weather or anticipation of workload).</i>		
103020300	Psychological action-ATC planning	ATC planning
<i>Factors related to Air Traffic Control planning directly related to the task of separating aircraft, e.g. poor plan or inflexible plan.</i>		
103020400	Psychological action-maintenance task planning	Maintenance planning
<i>Factors related to planning for maintenance, including planning for adequate manning, tooling and spares. Short term planning issues, associated with an individual.</i>		
103020401	Psychological action-spares provisioning	Spares provisioning
<i>Factors related to planning for spares provisioning - one particular aspect of the maintenance engineering task. For long term issues, not associated with an individual.</i>		
103030000	Psychological action-information processing/decision making	Information processing
<i>Factors related to information processing, e.g. deficiencies or poor/inappropriate decision making.</i>		
103030100	Psychological action-decision making	Action-decision making
<i>Factors related to decision making.N.B. There are many decisions which turn out to be incorrect or inappropriate with the benefit of hindsight; these should not be included unless they could have been anticipated as poor at the time the decision was made.</i>		
103030200	Psychological mental capacity	Mental capacity
<i>Factors related to mental capacity, e.g. task demands have reached or exceeded the mental capacity of the individual, either in terms of sheer quantity of workload, or in terms of complexity. Some individuals cope better than others.</i>		
103030300	Psychological-comprehension	Comprehension
<i>Factors related to comprehension difficulties, e.g. in communication, might be associated with language or accent or understanding of procedures.</i>		
103030400	Psychological-mis-recognition	Mis-recognition
<i>Factors related to perceptual misinterpretation of visual or auditory data, e.g. mishearing an air traffic control clearance or misreading instruments.</i>		

103030500 Psychological-misunderstanding Misunderstanding
Factors related to a misunderstanding by the recipient, usually associated with communication, e.g. misunderstanding of a warning, an instruction, a procedure or a chart.

103030600 Psychological-assumption incorrect Assumption incorrect
Factors related to an incorrect assumption. This differs from a false hypothesis in that there was evidence available which, if checked, could have indicated that the assumption was incorrect, whereas with a false hypothesis the evidence was not necessarily available to check the hypothesis at the time.

103030700 Psychological-false hypothesis False hypothesis
Factors related to false hypothesis, e.g. hypothesis that No.1 engine has failed is false if the failed engine is No.2.

103030800 Psychological-confirmation bias Confirmation bias
Factors related to attending to the evidence which confirms a theory/hypothesis and ignoring the evidence which does not confirm it. Seeing what you want to see; hearing what you want to hear.

103030900 Psychological-mind set/expectancy Mind set/expectancy
Factors related to having the mind set on a particular course of action, or explanation, or understanding of events, possibly ignoring other information to the contrary. Expectancy is similar in that an individual expects something to happen, e.g. a controller may expect certain aircraft types to climb very quickly, and fails to notice, or ignores, evidence to the contrary.

103031000 Psychological-habituation Psychological-habituation
Factors related to being so used to, or familiar with, something, that actions may become automatic, e.g. running through the checklist, and failing to notice that something is set incorrectly because of familiarity with it being set correctly.

103031100 Psychological-information processing other Information processing-other
Factors related to information processing other than those listed above.

103040000 Psychological-attention, perception and monitoring Perception & monitoring
Factors related to attention, perception and/or monitoring, including failure to notice information, visual or aural, e.g. lack of attention.

103040100 Psychological-perception Psychological-perception
Factors related to the problem associated with recognising or identifying something. One may see something, e.g. a radar return, but fail to perceive what it represents.

103040200 Psychological-attention Psychological-attention
Factors related to attention. This is often difficult to determine. Just because an individual did not see something, it does not mean that he/she was not paying enough attention. Care should be taken when using this keyword.

103040300 Psychological-monitoring (attention) Psychological-monitoring
Factors related to monitoring, to an acceptable extent, whether careful or occasional, e.g. instruments, displays or the sky. Just because an individual did not notice something, it does not mean that he/she was not monitoring it regularly. N.B. Care should be taken when using this keyword. as inadequate monitoring is often difficult to determine.

103040301 Psychological-monitoring automation Monitoring automation
Factors related to monitoring the automation (via displays, knowledge of what the aircraft should be doing, warnings or checks).

103040302 Psychological-monitoring Monitoring displays
Factors related to monitoring aircraft displays/instruments and ATC displays (mainly radar).

103040303 Psychological-monitoring outside world Monitoring outside world
Factors related to monitoring the outside world, "heads-up" in the cockpit for pilots; visual monitoring of aircraft in the vicinity of an aerodrome for tower controllers.

ECCAIRS 4	Explanatory Factors	Data Definition Standard
103040304	Psychological-monitoring frequencies	Monitoring frequencies
<i>Factors related to monitoring/listening to the frequency which the individual is required to monitor, (aircrew and controllers).</i>		
103040305	Psychological-monitoring a person	Monitoring a person
<i>Factors related to monitoring a person, e.g. in a training situation, or cross-checking in crew resource management.</i>		
103040400	Psychological-boredom/monotony	Boredom/monotony
<i>Factors related to boredom/monotony.</i>		
103040500	Psychological-vigilance	Psychological-vigilance
<i>Factors related to vigilance. Vigilance is similar to attention, but associated more with attending carefully than attention in general.</i>		
103040600	Psychological-distraction	Psychological-distraction
<i>Factors related to being distracted from a task.N.B. The nature of the task often involves distractions (e.g.. ATC calls when the flight crew members are busy with another task).</i>		
103040700	Psychological-fascination/fixation/channelized	Channelized attention
<i>Factors related to a person concentrating on one thing at the expense of others, e.g. pilots concentrating head-down and failing to look out or controllers concentrating on the radar and ignoring the strips.</i>		
103040800	Psychological-attention habituation	Attention habituation
<i>Factors related to being so used to, or familiar with, something, that the person does not necessarily "see" it, e.g. if there are many false conflict alerts on an air traffic control radar display, the controller's attention to such warnings may be reduced as a result of habituation.</i>		
103040900	Psychological-attention - other	Attention-other
<i>Factors related to other types of inattention than those listed above.</i>		
103050000	Psychological-skill/technique/ability	Psychological-ability
<i>Factors related to skill/technique/ability, e.g. poor aircraft handling skills.</i>		
103050100	Psychological-technique	Psychological-technique
<i>Factors related to shortcomings in the means of achieving one's purpose, e.g. poor or inappropriate technique, flying or air traffic controlling.</i>		
103050200	Psychological-airmanship	Psychological-airmanship
<i>Factors related to airmanship, i.e. the proper conduct of the flight.</i>		
103050201	Psychological-handling of aircraft	Handling of aircraft
<i>Factors related to flight handling, in terms of the direct manipulation of aircraft flight path and configuration (either via normal flight controls or via automatic systems).</i>		
103050202	Psychological-CRM/airmanship	Psychological-airmanship
<i>Factors related to crew resource management skills/airmanship.</i>		
103050300	Psychological-competence/ability	Psychological-competence
<i>Factors related to the competence or ability of the person.</i>		
103050400	Psychological-past record	Psychological-past record
<i>Factors related to the individual's history, e.g. an indication that there are some areas where the person's skill/technique/competence may be questionable.</i>		
103050500	Psychological-skill	Psychological-skill
<i>Factors related to the individual's level of skill.</i>		
103050501	Skill maintenance factor-automation	Maintenance-automation
<i>Factors related to a reduction in skill level due to lack of practice as a result of automation.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
103050502	Skill maintenance factor with age	Skill maintenance-age
<i>Factors related to a reduction in skill level with increasing age, e.g. a slowing of reaction times.</i>		
103050503	Skill maintenance factors practice lack	Lack of practice
<i>Factors related to skill maintenance due to lack of practice, e.g. management commitments or being required to fly minimum hours.</i>		
103050504	Skill maintenance-negative transfer	Negative transfer
<i>Factors related to negative transfer, e.g. interference of old skills after having transferred to a new environment/aircraft type or transfer from traditional cockpit to glass cockpit aircraft.</i>		
103050600	Human interaction with automation	Interaction-automation
<i>Factors related to interaction with automation, e.g. "Why did it do that?" syndrome.</i>		
103050700	Human reaction time-skill/ability level	Reaction time-ability
<i>Factors related to reaction time, related to level of skill or ability.</i>		
103050800	Non-standard technique factors	Non-standard technique
<i>Factors related to the use of a non-standard technique.</i>		
103050900	Other technique/skill/ability factors	Other factors
<i>Factors related to a technique, skill or ability other than those listed above.</i>		
103060000	Human judgement factors	Human judgement factors
<i>Factors related to human judgement.</i>		
103060100	Human judgement factors-spatial	Spatial
<i>Factors related to spatial judgement, either temporary or in general, e.g. one aircraft being taxied into another.</i>		
103060200	Human judgement factors-separation	Separation
<i>Factors related to separation judgement, either temporary or in general, e.g. controller judgement, by reference to the radar display, of separation between aircraft.</i>		
103060300	Human judgement factors-timing/speed	Timing/speed
<i>Factors related to timing/speed judgement, e.g. controller failing to realise by reference to the radar display how fast an aircraft is climbing.</i>		
103060400	Other human judgement factors	Other human judgement
<i>Factors related to types of judgement other than those listed above.</i>		
103070000	Human knowledge acquisition factors	Knowledge acquisition
<i>Factors related to the acquisition of knowledge/learning.</i>		
103080000	Human knowledge acquisition factors situational awareness	Situational awareness
<i>Factors related to situational awareness. Situational awareness refers to a person's consciousness of the aeroplane's status in relation to operational and environmental conditions.</i>		
103080100	Spatial disorientation factors	Spatial disorientation
<i>Factors related to spatial disorientation, e.g. not knowing when the aircraft is straight and level.</i>		
103080200	Geographic disorientation factors, i.e. being lost	Geographic disorientation
<i>Factors related to geographic situational awareness - not knowing where you are in terms of location.</i>		

103080300 Temporal disorientation/time horizon factors Temporal disorientation
Factors related to awareness of time, e.g. in an emergency situation, time can appear to run very slowly and this may distort one's perception of elapsed time.

103080400 Visual disorientation factors Visual disorientation
Factors related to visual disorientation, e.g. mistaking a road for the runway.

103080500 "Losing the picture" factors "Losing the picture"
Factors related to losing the cognitive "picture" of the overall situation, e.g. inexperienced controllers in high workload conditions.

103080600 Situational awareness and automation factors Situational awareness
Factors related to situational awareness and automation, e.g. knowing the mode to which the autopilot is selected.

103080700 Other orientation factors Other orientation factors
Factors related to other orientation or situation awareness, e.g. lack of awareness of a colleague's inability to cope.

103090000 Personality and attitude factors Personality/attitude
*Factors related to personality or attitudes.
 N.B. care must be taken when assigning these keywords, given that such judgements are generally subjective.*

103090100 Personality factors Personality factors
Factors related to certain types of personality.

103090101 Aggressive personality factors Aggressive personality
Factors related to an aggressive personality.

103090102 Assertive personality factors Assertive personality
Factors related to an assertive personality.

103090103 Non-assertive personality factors Non-assertive personality
Factors related to non-assertive personality.

103090200 Risk-taking personality factors Risk-taking factors
Factors related to risk-taking personality.

103090300 Lack of or excessive confidence problems Confidence problems
Factors related to lack of, or excessive, confidence generally.

103090301 Confidence in aircraft factors Confidence in aircraft
Factors related to lack of, or excessive, confidence in the aircraft.

103090302 Confidence in equipment factors Confidence in equipment
Factors related to lack of, or excessive, confidence in equipment.

103090303 Self confidence problems Self confidence problems
Factors related to lack of, or excessive, confidence in self.

103090304 Confidence in others factors Confidence in others
Factors related to lack of, or excessive, confidence in others, particularly work colleagues.

103090305 Confidence in information factors Confidence in information
Factors related to lack of, or excessive, confidence in information, e.g. in the accuracy of meteorological information.

103090306 Confidence in automation factors Confidence in automation
Factors related to lack of, or excessive, confidence in automation.

103090307 Confidence in ATC factors Confidence in ATC factors
Factors related to lack of, or excessive, confidence in air traffic control.

103090400 Complacency factors Complacency factors
Factors related to complacency, e.g. home aerodrome complacency.

103090500	"Get-home-itis"/"press-on-itis" factors	"Get-home-itis" factors
	<i>Factors related to being keen to continue a task, e.g. despite evidence to suggest that this may not be advisable, or without carrying out proper checks.</i>	
103090600	Motivation problems	Motivation problems
	<i>Factors related to motivation.</i>	
103090700	Other attitude factors	Other attitude factors
	<i>Factors related to attitudes - other than those listed above.</i>	
103100000	Mental/emotional state factors	Mental state factors
	<i>Factors related to mental/emotional state generally.</i>	
103100100	Arousal level/alertness problems	Alertness problems
	<i>Factors related to alertness; whether the task demands are too high or too low to result in the optimum performance of an individual.</i>	
103100200	Personal stress factors	Personal stress factors
	<i>Factors related to an individual feeling stressed, or appearing to be stressed.</i>	
	103100201	Post-incident stress factors
		Post-incident stress
		<i>Factors related to stress incurred as a result of having experienced a incident or stressful situation (usually that day, but could be some time prior to that).</i>
103100300	Personal apprehension problems	Apprehension problems
	<i>Factors related to the feeling of apprehension.</i>	
103100400	Personal anxiety problems	Personal anxiety problems
	<i>Factors related to the feeling of anxiety.</i>	
103100500	Personal panic factors	Personal panic factors
	<i>Factors related to panic.</i>	
103100600	Personal boredom (emotional state) problems	Personal boredom problems
	<i>Factors related to boredom.</i>	
103100700	Personal situation denial factors	Personal situation denial
	<i>Factors related to failure to admit to oneself that an emergency or stressful situation exists.</i>	
103100800	Other personal mental/emotional state factors	Other emotional factors
	<i>Factors related to other mental/emotional state.</i>	
	103100801	Suicide: circumstance indicate that death
		Suicide
		<i>Suicide: to be used when circumstances indicate that the occurrence was related to a suicide and when no other better fitting factors is at hand.</i>
104000000	Personal workload management	Personal work management
	<i>Factors related to management of own or another's workload (if within one's own control).</i>	
104010000	Personal prioritization/task scheduling	Task scheduling
	<i>Factors related to prioritization/task scheduling.</i>	
104020000	Personal timing of actions	Personal timing of actions
	<i>Factors related to timing of actions or events, e.g. leaving everything to the last minute.</i>	
	104020100	Adapting to unforeseen task additions
		Unforeseen task additions
		<i>Factors related to short term workload management - adapting to short notice changes.</i>

ECCAIRS 4	Explanatory Factors	Data Definition Standard
104030000	High workload task shedding	Workload task shedding
<i>Factors related to shedding tasks due to high workload.</i>		
104040000	Task allocation	Task allocation
<i>Factors related to task allocation, e.g. inappropriate allocation of tasks.</i>		
104050000	Other workload management	Other workload management
<i>Factors related to other workload management.</i>		
105000000	Experience, knowledge and recency	Experience & knowledge
<i>Factors related to experience, qualifications, knowledge and recency. N.B. details should be recorded elsewhere; the keywords should only be used if inexperience, inadequate qualifications, poor knowledge or for example, lack of recency are considered to have been contributory factors (irrespective of whether the regulations were met or not).</i>		
105010000	Personal experience and qualifications	Experience & qualification
<i>Factors related to experience or qualifications (relating to flight crew, controllers or engineers)</i>		
105010100	Qualifications/licences/ratings	Qualifications
<i>Factors related to qualifications, licences or ratings, e.g. inadequate or out-of-date.</i>		
105010200	Personal experience	Personal experience
<i>Factors related to experience, e.g. inadequate, inappropriate or out-of-date.</i>		
105010201	Total hours/years experience	Total hours/years
<i>Factors related to general experience level.</i>		
105010202	Experience in position	Experience in position
<i>Factors related to experience in position, e.g. a highly experienced controller may have transferred to a new unit only recently, and may be inexperienced on a particular sector.</i>		
105010203	Experience on aircraft type	Experience-aircraft type
<i>Factors related to experience on the subject aircraft type or variant.</i>		
105010204	Experience of aerodrome	Experience of aerodrome
<i>Factors related to experience of the aerodrome, e.g. first landing at a particular airport.</i>		
105010205	Experience of route	Experience of route
<i>Factors related to experience on a particular route/sector, e.g. unfamiliarity with controlled airspace boundaries on that route.</i>		
105010206	Instrument flying experience	Instrument flying
<i>Factors related to instrument flying experience, e.g. lack of experience in using certain types of aircraft instruments.</i>		
105010207	Other experience factors	Other experience factors
<i>Factors related to lack of other types of experience, e.g. of poor weather, of terrain or of maps/charts.</i>		
105010300	Use of tools and equipment	Use of tools and equipment
<i>Factors related to experience of maintenance engineer in use of tools and equipment.</i>		
105020000	Recency factors	Recency factors
<i>Factors related to recency, e.g. lack of recent relevant experience due to sickness, leave, management or training responsibilities. N.B. an individual can meet the requirements of the licence or validation, i.e. be current, but not have operated recently in the subject aircraft or in the air traffic services position.</i>		
105020100	Recency in position	Recency in position
<i>Factors related to recency in position, e.g. lack of recency in position.</i>		
105020200	Recency on aircraft type	Recency on aircraft type
<i>Factors related to lack of recent experience on the subject aircraft type or variant.</i>		

105020300	Recent experience with aerodrome	With aerodrome
<i>Factors related to lack of recency associated with the aerodrome, e.g. have not landed at the airport for 2 years.</i>		
105020400	Recent experience with route	Recent experience-route
<i>Factors related to lack of recency associated with a route or sector.</i>		
105020500	Recent experience with IFR	Recent experience-IFR
<i>Factors related to lack of recency in instrument flying rules.</i>		
105020600	Recent experience in operational activity	Experience-operational
<i>Factors related to lack of recency in operational activity, particularly during a busy period, e.g. due to management responsibilities. This includes individuals not "keeping their hand in".</i>		
105020700	Other recency factor	Other recency factor
<i>Factors related to other recency factors.</i>		
105030000	Inadequate or inaccurate knowledge	Adequacy of knowledge
<i>Factors related to inadequate or inaccurate knowledge.</i>		
105030100	General knowledge	General knowledge
<i>Factors related to general knowledge.</i>		
105030200	Lack of up-to-date knowledge	Current knowledge
<i>Factors related to up-to-date knowledge.</i>		
105030300	Knowledge of regulatory requirements	Regulatory requirements
<i>Factors related to the knowledge of regulatory requirements.</i>		
105030400	Aeronautical knowledge	Aeronautical knowledge
<i>Factors related to aeronautical knowledge (applicable to flight crew, controllers and maintenance engineers).</i>		
105030500	Aircraft systems knowledge	Aircraft system knowledge
<i>Factors related to the knowledge of aircraft systems (aircrew and maintenance engineers).</i>		
105030600	Knowledge of procedures	Knowledge of procedures
<i>Factors related to the knowledge of procedures, e.g. existence, content or where to look them up.</i>		
105030601	Knowledge of company procedures and	Company policies
<i>Factors related to the knowledge of company procedures and policies.</i>		
105030602	Knowledge of flight procedures	Flight procedures
<i>Factors related to the knowledge of flight procedures.</i>		
105030603	Knowledge of air traffic management	ATM procedures
<i>Factors related to the knowledge of air traffic management procedures.</i>		
105030604	Knowledge of aerodrome procedures	Aerodrome procedures
<i>Factors related to the knowledge of aerodrome procedures.</i>		
105030605	Knowledge of engineering maintenance	Maintenance procedures
<i>Factors related to the knowledge of engineering maintenance procedures.</i>		
105030700	Knowledge of flight rules	Knowledge of flight rules
<i>Factors related to the knowledge of flight rules (flight crew and controllers.)</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
105030800	Self briefing factors <i>Factors related to the self briefing.</i>	Self briefing factors
105030900	Meteorological knowledge <i>Factors related to the meteorological knowledge, or knowledge of current or predicted meteorological conditions.N.B. this covers the individual's lack of knowledge given that the information is available.</i>	Meteorological knowledge
105031000	Other knowledge factors <i>Factors related to knowledge of other matters not listed above.</i>	Other knowledge factors

ECCAIRS 4	Explanatory Factors	Data Definition Standard
200000000	Liveware (human) - environment interface	Liveware-environment
<i>Factors related to the interface between a human and the interface with his/her work environment.</i>		
201000000	Physical environment	Physical environment
<i>Factors related to the interface between the human and the physical environment.</i>		
201010000	Aerodrome/landing/take-off site	Landing/take-off site
<i>Factors related to aerodrome or take-off or landing site if not an aerodrome, e.g. helideck.</i>		
201010100	Taxiway/runway characteristics, conditions or	Taxiway/runway
<i>Factors related to a taxiway/runway characteristic or condition, e.g. potentially misleading runway/taxiway lighting, or unclear markings of runway exits.</i>		
201010200	Approach aids	Approach aids
<i>Factors related to approach aids, e.g. approach aid suddenly switched off without pilot being advised.</i>		
201010300	Landing/take-off site infrastructure	Infrastructure
<i>Factors related to an aerodrome or landing/take-off site infrastructure, e.g. helideck design on offshore oil platforms.</i>		
201010400	Obstructions to vision on the landing site	Obstructions to vision
<i>Factors related to obstructions to vision, e.g. not being able to see the end of a sloping runway or an Air Traffic Control Officer not being able to see all of a runway from the Tower.</i>		
201010500	Landing take-off site facilities	Landing take-off
<i>Factors related to an aerodrome or landing/take-off site facilities, e.g. no fire service or poor de-icing.</i>		
201020000	Air traffic services	Air traffic services
<i>Factors related to air traffic services provided, e.g. lack of air traffic control.</i>		
201020100	Air Traffic Services incorrect/ inappropriate/	Inappropriate
<i>Factors related to Air Traffic Services, e.g. being provided with an Advisory or Information Service instead of a Control service or poor air traffic control.</i>		
201020200	Lack of Air Traffic Control	Air Traffic Control lack
<i>Factors related to a lack of provision of a Air Traffic Control, (none provided normally or service temporarily suspended for some reason).</i>		
201030000	Provision of Air Traffic Services information	ATS information provision
<i>Factors related to the availability or provision of Air Traffic Services information, e.g. information not available, incorrect or late.</i>		
201030100	Air Traffic Services weather information	Weather information
<i>Factors related to Air Traffic Services meteorological information, e.g. poor, out-of-date or unavailable.</i>		
201030200	Air Traffic Services information on aerodrome	Aerodrome conditions
<i>Factors related to Air Traffic Services aerodrome condition information, e.g. poor, out-of-date or unavailable.</i>		
201030300	Other Air Traffic Services information	Other information
<i>Factors related to other Air Traffic Services information, e.g. poor, out-of-date or unavailable.</i>		
201040000	Weather/visibility conditions	Weather/visibility
<i>Factors related to human performance affected by weather or visual conditions, e.g. disorientation in fog or workload increased by poor weather conditions.</i>		

201050000	Physical workspace environment	Workspace environment
<i>Factors related to immediate physical working environment. N.B. the workspace environment may be as normal and meet published requirements, but may not be conducive to optimal performance.</i>		
201050100	Anthropometric space	Anthropometric space
<i>Factors related to space, anthropometric issues, e.g. cramped cockpit or lack of space in the hangar for maintenance purposes.</i>		
201050200	Access (for maintenance)	Access (for maintenance)
<i>Factors related to access, e.g. difficult access to parts of the aircraft for maintenance.</i>		
201050300	Visibility from workspace/workplace	Visibility from workplace
<i>Factors related to visibility from the immediate workplace, e.g. Tower window struts obscuring vision or small cockpit windows.</i>		
201050400	Air quality in workplace	Air quality in workplace
<i>Factors related to air quality, e.g. poor air circulation in the cockpit/workplace leading to drowsiness.</i>		
201050500	Ambient air pressure	Ambient air pressure
<i>Factors related to ambient air pressure (in an aircraft).</i>		
201050600	Cold working environment	Cold working environment
<i>Factors related to cold working environment, e.g. aircraft maintenance taking place in a cold outdoor environment, possibly affecting manual dexterity of engineers.</i>		
201050700	Hot working environment	Hot working environment
<i>Factors related to hot working environment.</i>		
201050800	Ill-lit working environment	Ill-lit environment
<i>Factors related to illumination, e.g. poor lighting in cockpit making it difficult to read charts at night.</i>		
201050900	Vision impairment due to glare	Vision impairment-glare
<i>Factors related to glare, e.g. glare on cockpit or Air Traffic Service displays, glare in Tower caused by setting sun.</i>		
201051000	Working environment discomfort due to humidity	Environment humidity
<i>Factors related to extremes of humidity resulting in an uncomfortable working environment.</i>		
201051100	Noise in the workplace	Noise in the workplace
<i>Factors related to noise, e.g. aircraft noise making it difficult to hear the R/T in the cockpit.</i>		
201051200	Ozone contamination of workplace	Ozone contamination
<i>Factors related to the presence of ozone in the air of the workplace.</i>		
201051300	Smoke/fumes contamination of workplace	Smoke/fumes contamination
<i>Factors related to fumes, smoke and the like in the work environment, e.g. smoke in the cockpit affecting vision or fumes in empty fuel tanks affecting maintenance engineers.</i>		
201051400	Radiation in the work environment	Radiation environment
<i>Factors related to presence of radiation in the work environment.</i>		
201051500	Excessive vibration in the work environment	Excessive vibration
<i>Factors related to excessive vibration.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
201051600	Other internal workspace environment issues <i>Other factors related to the workspace environment.</i>	Other workspace issues
201060000	Other human-environment interface <i>Factors related to other human-environment interface conditions.</i>	Other interface
202000000	Psychosocial factors <i>Factors related to psychosocial issues associated with, or affecting, work, e.g. cultural differences.</i>	Psychosocial factors
202010000	Job satisfaction <i>Factors related to job satisfaction, affecting performance.</i>	Job satisfaction
202020000	Morale/motivation <i>Factors related to morale or motivation, affecting performance.</i>	Morale/motivation
202030000	Cultural issues <i>Factors related to cultural issues, e.g. crew mix, authority gradient, cultural issues and crew resource management.</i>	Cultural issues
202040000	Domestic issues <i>Factors related to domestic issues affecting performance.</i>	Domestic issues
202040100	Domestic event/crisis <i>Factors related to domestic event or crisis which may have affected performance, e.g. death of a close relative or divorce proceedings.</i>	Domestic event/crisis
202040200	Family pressure <i>Factors related to family pressure, e.g. pressure to get home from duty for a special event.</i>	Family pressure
202040300	Financial problems/issues <i>Factors related to short term or long term financial issues, e.g. moonlighting to earn more money resulting in overwork, or continuing operationally when approaching retirement for financial reasons despite doubts concerning declining skill level.</i>	Financial problems/issues
202040400	Interpersonal conflicts <i>Factors related to interpersonal conflicts, e.g. not "getting on" with a work colleague.</i>	Interpersonal conflicts
202040500	Significant lifestyle change <i>Factors related to significant lifestyle change, e.g. moving house, country or company.</i>	Lifestyle change
202040600	Mental pressure (domestic) <i>Factors related to mental pressure related to non-work issues.</i>	Mental pressure-domestic
202050000	Other psychosocial issues <i>Factors related to other psychosocial issues not listed above.</i>	Other psychosocial issues
202060000	Non-sterile cockpit/workplace <i>Factors related to non-sterile cockpit/workplace. Presence of third parties in the workplace, affecting performance, e.g. presence of other persons in the cockpit (i.e. not belonging to the flight crew), or the presence of third parties in an ATM workplace.</i>	Non-sterile cockpit/workplace

203000000	Company, management, manning or regulatory issues	Company/regulatory issues
<i>Factors related to company, management, manning, or regulatory issues which tend to be outside the individual's control and which may affect performance or safety.</i>		
203010000	Pressure to achieve	Pressure to achieve
<i>Factors related to perceived or actual pressures, e.g. perceived pressure among controllers to keep up the movement rate, pressure on pilots to avoid go-arounds or diversions.</i>		
203010100	Company/commercial pressures	Commercial pressures
<i>Factors related to company/commercial pressures, e.g. perceived pressure among controllers to keep up the movement rate or pressure on pilots to avoid go-arounds or diversions.</i>		
203010200	Specific company problems	Specific company problems
<i>Factors related to specific company problems, e.g. different terms and conditions between staff in recently amalgamated companies, leading to difficulties in working together.</i>		
203010300	Management/supervision problems	Supervision problems
<i>Factors related to management/supervision, problems with management/supervisors, or problems experienced by managers/supervisors in connection with their role, e.g. conflicts between management requirements and operational supervisory responsibilities.</i>		
203010400	Managerial operating pressures	Managerial pressures
<i>Factors related to managerial operating pressures, e.g. trying to justify safety related costs within a commercial environment.</i>		
203020000	Labour relations factors	Labour relations factors
<i>Factors related to labour relations, e.g. working to rule or strikes.</i>		
203020100	Employee-management relations	Employee-management
<i>Factors related to employee-management relations.</i>		
203020200	Industrial action	Industrial action
<i>Factors related to industrial action, e.g. problems arising as a result of air traffic service strikes or pilot's "work to rule".</i>		
203020300	Union or professional group	Union/professional group
<i>Factors related to unions (apart from industrial action, covered elsewhere) or professional groups. N.B. do not include situations where unions or professional groups have highlighted problems or attempted to solve them.</i>		
203030000	Management's personnel policies	Management personnel policy
<i>Factors related to management's personnel policies.</i>		
203030100	Operational personnel policies	Operational
<i>Factors related to operational personnel policies, e.g. pilots discouraged from making diversions due to cost implications, flight crew may be encouraged to bend regulations, overlook minor faults or exceed maintenance dates.</i>		
203030200	Operational control personnel policies	Operational control
<i>Factors related to operational control personnel policies.</i>		
203030300	Operational support personnel policies	Operational support
<i>Factors related to operational support personnel policies, e.g. inadequate or lack of, operational support policies.</i>		
203030400	Recruitment personnel policies	Recruitment
<i>Factors related to recruitment personnel policies, e.g. recruitment of inappropriate staff.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
203030500	Staffing personnel policies	Staffing
<i>Factors related to staffing - long term, general personnel policies and numbers. N.B. this is different from manning, e.g. the agreed number of staff at an ATC Unit may be 10 (staffing), there may be only 8 posts filled (staffing), 2 staff members maybe off sick (manning) and the remainder may be inappropriately rostered according to their validations (manning).</i>		
203030600	Manning/resource allocation personnel policies	Resource allocation
<i>Factors related to manning or resource allocation personnel policies, i.e. the availability of staff and their deployment, e.g. underestimating anticipated workload and deploying inadequate personnel as a consequence.</i>		
203030700	Crew pairing personnel policies	Crew pairing
<i>Factors related to crew pairing personnel policies, e.g. an inexperienced pilot-in-command flying with an inexperienced co-pilot.</i>		
203030800	Scheduling personnel policies	Scheduling
<i>Factors related to scheduling personnel policies, e.g. not providing sufficient personnel to allow for absentees, when making duty time calculations, resulting in a lack of availability of staff.</i>		
203030900	Maintenance scheduling personnel policy	Maintenance scheduling
<i>Factors related to personnel policies for scheduling of aircraft maintenance jobs, e.g. not allowing enough time for a task.</i>		
203031000	Seniority/promotion/career progression personnel	Career progression
<i>Factors related to seniority/promotion/career progression personnel policies, e.g. changes such that senior controllers at certain units have to accept demotion, or transfer to busier units where they might not be able to cope as well.</i>		
203031100	Terms and conditions/pay/incentives personnel	Terms and conditions
<i>Factors related to policies on terms and conditions/pay/incentives.</i>		
203031200	Personnel requirement policies	Personnel requirement
<i>Factors related to personnel requirement policies, e.g. company medical requirements or company flight time limitations.</i>		
203031300	Personnel policies in instructions/directives/orders	Instructions
<i>Factors related to personnel policies in instructions/directives/orders, e.g. pilots discouraged from making go-arounds due to cost implications.</i>		
203031400	Shiftwork/rosters/duty time personnel policies	Shiftwork, duty time
<i>Factors related to shiftwork/rosters/duty time personnel policies, including flight time limitations.</i>		
203040000	Manning issues	Manning issues
<i>Factors related to manning issues.</i>		
203040100	Temporary or unexpected staff shortages	Unexpected staff shortage
<i>Factors related to temporary or unexpected staff shortages, e.g. due to illness.</i>		
203040200	Temporary or unexpected skills shortages	Unexpected skill shortage
<i>Factors related to temporary or unexpected skills shortages, e.g. adequate number of staff on a shift, but inappropriate mix of skills.</i>		
203050000	Regulatory authority policies and practices	Regulatory policies
<i>Factors related to regulatory authority policies and practices, e.g. regulations may have loopholes or a regulation to improve safety in one area may impact adversely upon safety in another area.</i>		

204000000	Operational task demands	Operational task demands
<i>Factors related to operational task demands, i.e. demands directly associated with the operational task itself, e.g. flying, navigating, controlling or servicing part of an aircraft.</i>		
204010000	Workload task demands	Workload task demands
<i>Factors related to workload in terms of task demands, as opposed to the ability to cope with the task demands.</i>		
204010100	Work overload/task saturation	Overload/task saturation
<i>Factors related to task demands being too high; it would be unreasonable to expect an individual to meet such demands.N.B. if the task demands are high but reasonable, but the individual is unable to cope see, Workload Management.</i>		
204010200	High workload due to staff/skills shortage	High-staff/skills short
<i>Factors related to high operational task workload due to staff/skills shortages.</i>		
204010300	Underload - low operational task demand	Underload-low demand
<i>Factors related to low operational task demands.</i>		
204010400	Workload level transition	Workload level transition
<i>Factors related to problems/errors occurring shortly after the level of operational workload has changed from high to low, or from low to high.N.B. for the latter see, "Planning - preparedness, or workload management - timing"</i>		
204010500	Additional workload due to unexpected demands	Additional-unexpected
<i>Factors related to additional workload generated by unexpected operational task demands.</i>		
204010600	Additional workload due to extraneous tasks	Additional-extraneous
<i>Factors related to additional workload generated by extraneous tasks that are not strictly part of the operational task, e.g. explaining one's actions to a trainee in addition to doing the task.</i>		
204010700	Additional workload due to administrative	Additional administrative
<i>Factors related to additional workload generated by administrative workload associated with the operational task demands, e.g. filling in paperwork whilst in-flight.</i>		
204010800	Additional workload due to unusual/unfamiliar	Additional-unusual
<i>Factors related to additional workload generated by an unusual/unfamiliar situation, particularly one which has not been covered in training.</i>		
204010900	Additional workload due to emergency situation	Additional-emergency
<i>Factors related to additional operational task workload generated by an emergency situation.</i>		
204011000	Additional workload due to poor air traffic flow	Additional-flow control
<i>Factors related to an increase in operational task workload resulting from poor air traffic flow control, e.g. a lot of traffic arriving at once, as opposed to being spread out.N.B. this is irrespective of whether, the agreed flow rates or procedures are met.</i>		
204020000	Time pressure factors	Time pressure factors
<i>Factors related to time pressures, e.g. pressure to finish aircraft maintenance by a specific time because the aircraft is due back in service.</i>		
204020100	Time pressures while flying	While flying
<i>Factors related to time pressures associated with flying, or experienced by flight crew.</i>		
204020200	Time pressures while controlling air traffic	Controlling air traffic
<i>Factors related to Air Traffic Control Officers, which are associated with time pressures related to air traffic control.</i>		

204020300 Time pressures maintenance/turn around Maintenance/turn around
Factors related to time pressures experienced by maintenance engineers and maintenance supervisors during aircraft turnarounds.

204020400 Time pressures night curfew Night curfew
Factors related to time pressures caused by night curfews.

204020500 Time pressures - flight time limitations/out-of-hours Flight time limitations
Factors related to time pressures incurred by the operational personnel approaching or exceeding their duty time limitations.

204030000 Mental pressure during normal operations Mental pressure normal operations
Factors related to the pressure of the job or task irrespective of any additional operational pressures (e.g. older controllers having difficulty coping with operational job demands.)

204040000 Training, examination or check situation Training/check situation
Factors related to on-the-job training, an examination or check situation.

204040100 Examination, check or training in progress Training in progress
Factors related to training, examination or check in progress.

204040101 Flight crew examination, check or training Flight crew
Factors related to flight crew training, examination or check in progress.

204040102 Air Traffic Control Officer examination, ATCO
Factors related to Air Traffic Control Officer training, examination or check in progress.

204040103 Engineer examination, check or training in Engineer
Factors related to maintenance engineer training, examination or check in progress.

204040200 Other examination, check or training in progress Other training going on
Factors related to a training situation other than one of those listed above.

204050000 Miscellaneous operational task demands Operational task demands
Factors related to operational task demands not covered elsewhere.

204050100 Task demands caused by other aircraft Caused by other aircraft
Factors related to operational task demands caused by actions of other aircraft's pilots.

204050200 Task demands caused by passengers Caused by passengers
Factors related to operational task demands caused by passengers, e.g. disruptive passengers.

204050201 Task demands due to disruptive Disruptive passengers
Factors related to operational task demands caused by disruptive passengers.

204050300 Task demands due to technical problem/failure Technical problem/failure
Factors related to any operational task demands due to technical failures. N.B. for the description of the technical failure use descriptive factors.

204050400 Task demands caused by ground operations Ground operations
Factors related to operational task demands caused by ground operations, e.g. engineering on the ramp, loading, pushback or taxiing.

204050500 Task demands caused by ground services Ground services
Factors related to operational task demands caused by non-ramp ground services, e.g. meteorological briefing or operations control.

204050600 Task demands caused by technical support

Technical support

Factors related to operational task demands caused by engineering support, advice or information.

300000000	Liveware (human) - hardware/software interface	Hard/software interface
<i>Factors related to the interface between the human and the hardware/software.</i>		
301000000	Human and hardware interface	Human/hardware interface
<i>Factors related to the interface between the human and the system (hardware) interface. N.B. there is no clear-cut dividing line between hardware and software, therefore, in this context, hardware had been interpreted as referring to the more traditional displays and controls, and software to 'glass' cockpit systems and their interfaces. Firmware has been added to cover the modern electronic display interfaces for systems such as data link and navigation systems.</i>		
301010000	Workplace equipment/workplace design liveware - hardware interface	Workplace equipment/design
<i>Factors related to the liveware - hardware interface caused by cockpit equipment/cockpit design issues which have led to less than optimal performance, or which are safety hazards.</i>		
301010100	Design or ergonomics liveware - hardware interface	Design or ergonomics
<i>Factors related to the liveware - hardware interface caused by design or ergonomic issues (defining ergonomics in its narrower sense of man-machine-interface design).</i>		
301010101	Workplace eye reference position	Eye reference overlooked
<i>Factors related to the liveware - hardware interface encountered as a result of a failure to take into account the design eye reference position in the design of the cockpit and its equipment. As an example this is critical for heads up display design, where it must be possible for any pilot within the allowable anthropometric range to adjust his/her seat to place the eyes at the correct height.</i>		
301010102	Workplace seat design inadequate	Seat design inadequate
<i>Factors related to the liveware - hardware interface associated with seat design, e.g. lack of seat adjustment resulting in inability to reach certain controls or poor seat design leading to back problems with helicopter pilots.</i>		
301010103	Workspace layout not optimum	Layout not optimum
<i>Factors related to the liveware - hardware interface associated with the workspace layout, e.g. no room to clip charts open at the required place.</i>		
301010104	Workplace instruments design unsuitable	Instrument design
<i>Factors related to the liveware - hardware interface associated with the instrument design, e.g. similar instruments giving very different information, creating a potential for confusion.</i>		
301010105	Workplace electronic displays design	Electronic display design
<i>Factors related to the liveware - hardware interface associated with electronic displays design, e.g. navigating through complicated menus.</i>		
301010106	Workplace control design unsuitable	Control design unsuitable
<i>Factors related to the liveware - hardware interface associated with the design of controls, e.g. a design which makes it easy to knock a control out of place if a 'gate' is not provided.</i>		
301010107	Workplace controls and displays	Control/display incompatible
<i>Factors related to the liveware - hardware interface associated with controls and displays, e.g. lack of integration where the autopilot display can indicate one mode but the 'hard' mode switch can be selected to a different mode, the software overriding the hardware.</i>		
301010108	Workplace controls and displays badly lit	Control/display badly lit
<i>Factors related to the liveware - hardware interface associated with illumination of cockpit equipment, e.g. glare making it difficult to see whether an indicator light is on or off.</i>		
301010109	Workplace controls and displays	Control/display location
<i>Factors related to the liveware - hardware interface associated with the location of controls or displays, e.g. a display/indicator on one side of the cockpit being located in a position which makes it difficult for the other pilot to see in order to cross-check.</i>		
301010110	Workplace controls and displays	Controls and displays
<i>Factors related to the liveware - hardware interface associated with the workplace controls and display movement, e.g. failure to apply good ergonomic principles to control and display movement for example using digital indicators when analogue would be more appropriate.</i>		
301010111	Workplace equipment control	Equipment control
<i>Factors related to the liveware - hardware interface associated with the operation of the equipment, e.g. a layout which makes it easy to knock one switch accidentally when selecting another.</i>		

301010112	Workplace motor workload excessive	Motor workload excessive
	<i>Factors related to the liveware - hardware interface associated with the motor activity required, e.g. too much button pressing.</i>	
301010113	Workplace reach/vision restrictions	Reach/vision restrictions
	<i>Factors related to the liveware - hardware interface associated with difficulties in seeing or reaching controls or displays, e.g. important indicators located in areas of peripheral vision.</i>	
301010200	Workplace personal discomfort	Personal discomfort
	<i>Factors related to the liveware - hardware interface associated with personal comfort which may, in the longer term, have an impact upon fatigue, e.g. seat comfort.</i>	
301010300	Workplace alerts/warnings intrusive	Alerts/warnings intrusive
	<i>Factors related to the liveware - hardware interface associated with the design of alerts and warnings, e.g. unnecessarily intrusive audio alerts.</i>	
301010400	Workplace non-standard controls	Non-standard controls
	<i>Factors related to the liveware - hardware interface associated with standardization issues e.g. switches in the up position on some aircraft turning a service off, and in others turning a service on.</i>	
301010500	Workplace unreliable equipment	Unreliable equipment
	<i>Factors related to the liveware - hardware interface associated with reliability concerns, e.g. where a pilot elects not to use a particular piece of equipment because he has no confidence in its reliability. N.B. actual unreliability of equipment, not related to the human - system interface, which is covered elsewhere in the explanatory factors.</i>	
301010600	Workspace electronic map display shift	Electronic map display
	<i>Factors related to the liveware - hardware interface associated with map shift, i.e. the sudden change of an electronic map display.</i>	
301020000	Non-flight deck/cockpit aircraft equipment	Non-flight deck equipment
	<i>Factors related to the liveware - hardware interface associated with aircraft equipment other than cockpit/flight deck equipment.</i>	
301020100	Ergonomics of other aircraft equipment	Ergonomics
	<i>Factors related to the liveware - hardware interface associated with design or ergonomic issues (defining ergonomics in its narrower sense of man-machine-interface design).</i>	
301020101	Cabin crew seat design	Cabin crew seat design
	<i>Factors related to the liveware - hardware interface associated with cabin crew seat design, e.g. lack of seat adjustment resulting in inability to reach certain controls, or poor seat comfort leading to back problems/injuries in accidents by cabin crew.</i>	
301020200	Comfort of other aircraft equipment	Comfort
	<i>Factors related to the liveware - hardware interface associated with personal comfort which may, in the longer term, have an impact upon fatigue, e.g. seat comfort.</i>	
301020300	Intrusive alerts/warnings of other aircraft	Intrusive alerts
	<i>Factors related to the liveware - hardware interface associated with the design of alerts and warnings, e.g. unnecessarily intrusive audio alerts.</i>	
301020400	Standardization of other aircraft equipment	Standardization
	<i>Factors related to the liveware - hardware interface associated with standardization issues e.g. switches in the up position on some aircraft turning a service off, and in others turning a service on.</i>	
301020500	Reliability of other aircraft equipment	Reliability-other
	<i>Factors related to the liveware - hardware interface associated with concerns about the reliability of other aircraft equipment. N.B. actual unreliability of equipment, not related to the human - system interface, is covered elsewhere, in the descriptive factors.</i>	

301030000 Aircraft maintenance equipment craft maintenance equipment

Factors related to the liveware - hardware interface associated with the equipment and tools used by maintenance engineers, e.g. appropriate tools not being available.

301030100 Design/ergonomics of maintenance Design tools/equipment

Factors related to the liveware - hardware interface associated with design/ergonomics of maintenance tools/ equipment, e.g. poor design/ergonomics of maintenance engineering tools/equipment.N.B. ergonomics is the study of man in his/her working environment.

301030200 Reliability of aircraft maintenance equipment Reliability

Factors related to the liveware - hardware interface associated with the reliability of aircraft maintenance tools/equipment.

301040000 ATC equipment ATC equipment

Factors related to the liveware - hardware interface associated with ATC equipment.

301040100 Ergonomics/design of ATC equipment Ergonomics-ATC equipment

Factors related to the liveware - hardware interface associated with the ergonomics/design of ATC equipment.

301040200 Radar display standards Radar display standards

Factors related to the liveware - hardware interface associated with the radar display, e.g. overlapping labels.

301040300 Flight progress strips display Progress strips display

Factors related to the liveware - hardware interface associated with the flight progress strip display, e.g. display board too small to hold all the strips.

301040400 Air Traffic Control communications equipment : communications equipment

Factors related to the liveware - hardware interface associated with the communications equipment or radiotelephone quality, e.g. telephones, faxes, telexes or frequencies.

301040500 Reliability of ATC equipment Reliability-ATC equipment

Factors related to the liveware - hardware interface associated with the reliability of ATC equipment, e.g. unreliable ATC equipment.

301040600 Other air traffic control equipment Other ATC equipment

Factors related to the liveware - hardware interface associated with other air traffic control equipment, e.g. ancillary information displays.

301050000 Suitability of design/ergonomics for training purposes Ergonomics for training

Factors related to the liveware - hardware interface associated with the suitability of a design, or the ergonomics, for training purposes.

301060000 Suitability of design for maintenance purposes Suitability-maintenance

Factors related to the liveware - hardware interface associated with suitability of design for maintenance purposes.

302000000 Inadequate information/data sources Inadequate info sources

Factors related to the liveware - hardware interface associated with the lack of availability of information, inaccurate information or intermittent information.N.B. for problems associated with misinterpretation of 'good' data, see, "Information Processing/ Decision Making"; for problems associated with the man-machine interface between the human and the information, see, "Hardware - Ergonomics/Design"; for problems associated with human communication, see, "Communication".

302010000 Data sources Data sources

Factors related to the liveware - hardware interface associated with the sources of information/data, e.g. radar or transponder.

302010100	Radar information	Radar information
<i>Factors related to the liveware - hardware interface associated with the radar information, e.g. not available, inaccurate, misleading or intermittent.</i>		
302010101	Primary radar information	Primary radar information
<i>Factors related to the liveware - hardware interface associated with the primary radar information, e.g. not available, inaccurate, misleading or intermittent.</i>		
302010102	Secondary radar information	Primary radar information
<i>Factors related to the liveware - hardware interface associated with the secondary radar information, e.g. not available, inaccurate, misleading or intermittent.</i>		
302010200	Transponder information	Transponder information
<i>Factors related to the liveware - hardware interface associated with the transponder information, e.g. no transponder, transponder not working, transponder working incorrectly, intermittent transponder information or inaccurate transponder information.</i>		
302010201	Mode C information	Mode C information
<i>Factors related to the liveware - hardware interface associated with the mode C altitude information, e.g. not available, inaccurate, misleading or intermittent.</i>		
302010202	Squawk/identification	Squawk/identification
<i>Factors related to the liveware - hardware interface associated with mode A identification information, e.g. not available, inaccurate, misleading or intermittent.</i>		
302010300	Human data source	Human data source
<i>Factors related to the liveware - hardware interface associated with information from other people, e.g. ATC, other units, other aircraft or military ATC units.</i>		
302010301	Civil air traffic control data source	Civil air traffic control
<i>Factors related to the liveware - hardware interface associated with information from (other) ATC units.</i>		
302010302	Information from military sources	Information-military
<i>Factors related to the liveware - hardware interface associated with information from military sources, e.g. failure to inform civil air traffic control that a Danger Area is active.</i>		
302010303	Information from other pilots	Information-other pilots
<i>Factors related to the liveware - hardware interface associated with the information passed from other aircraft, e.g. in parts of the world where no ATC service is available.</i>		
302010400	Other information/data sources	Other information
<i>Factors related to the liveware - hardware interface associated with other information/data sources.</i>		
302020000	Communications media	Communications media
<i>Factors related to the liveware - hardware interface associated with communications media.</i>		
302020100	VHF/HF frequencies	VHF/HF frequencies
<i>Factors related to the liveware - hardware interface associated with VHF/HF frequencies</i>		
302020200	Telephone	Telephone
<i>Factors related to the liveware - hardware interface associated with transmitting information via the telephone.</i>		
302020300	Data link communications	Data link communications
<i>Factors related to the liveware - hardware interface associated with transmitting information via data link.</i>		
<i>Controller-pilot data link communications (CPDLC). A means of communication between controller and pilot, using data link for ATC communications. ICAO Annex 10.</i>		
302020400	Other communications media	Other communications media
<i>Factors related to the liveware - hardware interface associated with transmitting information via other communications media.</i>		

303000000	Human software/firmware interface	Human software interface
<i>Factors related to the interface between the human and the system software/firmware interface. N.B. there is no clear-cut dividing line between hardware and software, therefore, in this context, software has been interpreted as referring to 'glass' cockpit systems and their interfaces and hardware to the more traditional displays and controls. Firmware has been added to cover the modern electronic display interfaces for systems such as data link and navigation systems.</i>		
303010000	Human firmware interface	Human firmware interface
<i>Factors relating to the interface between the human (liveware) and systems such as modern navigation system input devices, electronic checklists and warning systems and datalink interfaces [software/firmware].</i>		
303010100	Firmware reliability	Firmware reliability
<i>Factors relating to the liveware - firmware interface associated with reliability concerns related to firmware. Firmware covers the modern electronic display interfaces for systems such as data link and navigation systems.</i>		
303010200	Electronic display "navigation"	Electronic display
<i>Factors relating to the liveware - firmware interface associated with electronic display 'navigation' interfaces, e.g. personnel finding their way around the display screens using buttons, keys or a mouse.</i>		
303010300	Data link/digital communications	a link/digital communications
<i>Factors relating to the liveware - firmware interface associated with the pilot's interface with the cockpit data link equipment/system.</i>		
303010400	Electronic checklist and warning display	Warning/checklist display
<i>Factors relating to the liveware - firmware interface associated with the use of electronic checklist and warning display (EICAS/ EFIS).</i>		
303020000	Software	Software
<i>Factors relating to the liveware - firmware interface associated with the design or incorrect operation of the software, e.g. software which is not 'user friendly'.</i>		
303020100	Software reliability	Software reliability
<i>Factors relating to the liveware - software interface associated with software reliability concerns, e.g. if a pilot elects not to use a particular piece of software or system because he has no confidence in its reliability.</i>		
303020200	User friendliness/usability	User friendliness
<i>Factors relating to the liveware - software interface associated with poor user friendliness/usability, e.g. a pilot elects not to use a particular piece of software or system because he/she has difficulty making the system work.</i>		
303020300	Menus/menu navigation	Menus/menu navigation
<i>Factors relating to the liveware - software interface associated with the difficulty in navigating through menus, e.g. in electronic checklists. (see also electronic display navigation interfaces)</i>		
304000000	Automation/automatic systems	Automation systems
<i>Factors related to the use of automation/automatic systems. This refers to all automatic systems including automation in ATC control rooms.</i>		
304010000	Automation design philosophies	Design philosophies
<i>Factors related to automation design, or automation design philosophies.</i>		
304010100	User friendliness of automation	User friendliness
<i>Factors related to user friendliness of automation.</i>		
304010200	System mode awareness	System mode awareness
<i>Factors related to system mode awareness - being aware of the state of the supporting system/software.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
304010300	Automation generating additional workload	Additional workload
<i>Factors related to automation generating additional workload, additional re-programming to change to another approach.</i>		
304010400	Compatibility with hardware and instrumentation	Compatibility-hardware
<i>Factors related to compatibility with hardware and instrumentation, e.g. poor compatibility with hardware and instrumentation.</i>		
304010500	Reliability of automation	Reliability of automation
<i>Factors related to the reliability of automation, e.g. poor reliability.</i>		
304010600	Unwanted disconnects of automation	Unwanted disconnects
<i>Factors related to unwanted disconnect of automation, e.g. autopilot 'dropping out' or inadequate warning of disconnect.</i>		
304020000	Use of automation	Use of automation
<i>Factors related to the use of automation.</i>		
304020100	Training in the use of automation	Training-automation
<i>Factors related to training in the use of automation.</i>		
304020200	Reliance on automation	Reliance on automation
<i>Factors related to reliance on automation.</i>		
304020300	Use/overuse of automation	Use/overuse of automation
<i>Factors related to the extent of the use of automation, e.g. overuse of automation.</i>		
304020400	Complacency with automation	Automation complacency
<i>Factors related to complacency associated with automation.</i>		
305000000	Automatic defences/warnings	Automatic defence/warning
<i>Factors related to the interface between the human and the system, e.g. automatic defences/warnings. N.B. these keywords should only be used if there was a problem with the warnings, e.g. warnings not available/not working, warnings misleading or too many false alarms.</i>		
305010000	Cockpit warnings	Cockpit warnings
<i>Factors related to cockpit warnings.</i>		
305010100	Stall warnings	Stall warnings
<i>Factors related to stall warnings.</i>		
305010200	Windshear warnings	Windshear warnings
<i>Factors related to windshear warnings.</i>		
305010300	Traffic Alert and Collision Avoidance System	TCAS
<i>Factors related to traffic alert and collision avoidance systems warnings.</i>		
305010400	Ground proximity warning system	GPWS
<i>Factors related to ground proximity warning system (GPWS) warnings.</i>		
305010500	Gear warning system	Gear warning system
<i>Factors related to gear warning.</i>		
305020000	Air traffic control alarms/alerts	ATC alarms/alerts
<i>Factors related to ATC alert systems, e.g. STCA.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
305020100	Conflict alert <i>Factors related to conflict alerts.</i>	Conflict alert
305020200	Minimum safe altitude warning system <i>Factors related to minimum safe altitude warning system alerts.</i>	MSAWS
305030000	Other defences/warnings <i>Factors related to defences/warnings other than those listed above.</i>	Other defences/warnings
306000000	Operational material <i>Factors related to the interface between the human and the system which are not covered by hardware or software/firmware (either direct operational, or indirect).</i>	Operational material
306010000	Workplace manuals, checklists and charts <i>Factors related to manuals or use of flight deck manuals, checklists or charts, e.g. poorly designed, not readily accessible or out of date.</i>	Workplace documents
306010100	Workplace manuals <i>Factors related to manuals or the use of work place manuals, e.g. poorly designed, not readily accessible or out of date.</i>	Workplace manuals
306010200	Workplace checklists (normal) <i>Factors related to checklists or use of checklists, e.g. poorly designed in terms of content or presentation or difficult to use in the cockpit.N.B. for electronic checklists, see, "Software/firmware - Electronic Checklist Display".</i>	Workplace checklists
306010300	Emergency and abnormal workplace checklists <i>Factors related to the design or use of emergency/abnormal checklists.N.B. for electronic checklists see, "Software/firmware -Electronic Checklist Display".</i>	Emergency checklists
306010400	Maps or charts or use of maps/charts <i>Factors related to maps or charts or use of maps/charts. See also, "Training - Miscellaneous Training Issues - Use of Maps/charts".]</i>	Maps/charts or use of
306020000	Flight progress strips <i>Factors related to flight progress strips.</i>	Flight progress strips
306030000	Maintenance engineering material <i>Factors related to maintenance engineering material.</i>	Maintenance engineering material
306030100	Maintenance task cards and process sheets - <i>Factors related to maintenance task cards and process sheets.</i>	Maintenance process sheet
306040000	Operational documents, charts or checklists <i>Factors related to the interface between the human and the operational documents, charts or checklists.</i>	Operational documents
306040100	Notices and advisory material <i>Factors related to notices (NOTAMs) and advisory material.</i>	Notices-advisory material
306040200	Other publications <i>Factors related to other publications.</i>	Other publications
306040300	Aircraft safety instruction card <i>Factors related to aircraft safety instructions cards for passenger briefing.</i>	Aircraft safety card

306040400	Written regulations	Written regulations
<i>Factors related to associated with written regulations.</i>		
306040500	Other handbooks/manuals	Other handbooks/manuals
<i>Factors related to handbooks or reference manuals.N.B. this refers to manuals which do not have to be available but which may need to be referred to either before of after carrying out tasks.</i>		
306040600	Other checklists	Other checklists
<i>Factors related to the design or use of non-flight crew checklists, e.g. ATC Tower emergency checklist and cabin crew checklists.</i>		
306040700	Signage	Signage
<i>Factors related to signage, e.g. ambiguous signs.</i>		
306040800	Other written/printed information	Other written information
<i>Factors related to other written/printed information.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
400000000	Liveware (human) - interface system support	Human v system support
<i>Factors related to the interface between liveware [human] and system support.</i>		
401000000	Human interface-procedures	Human v procedures
<i>Factors related to the interface between liveware [human] and system support procedures themselves. N.B. for failure to follow procedures, and the reasons for this, see other categories such as, "Psychological-Knowledge- Procedures, Psychological - Action- Violation" and "Training".</i>		
401010000	Human interface-Standard Operating Procedures	Human v SOP
<i>Factors related to the interface between liveware [human] and Standard Operating Procedures, e.g. the procedure is inappropriate or the manner in which the procedures are written down is ambiguous.</i>		
401020000	Human interface-emergency and abnormal procedures	Human v abnormal procedure
<i>Factors related to the interface between liveware [human] and emergency and abnormal procedures.</i>		
401030000	Human interface-air traffic control procedures	Human v ATC procedures
<i>Factors related to the interface between liveware [human] and ATC Procedures, e.g. the procedure is inappropriate or the wording of the procedures is ambiguous.</i>		
401030100	Human interface-air traffic control operational	ATC operational procedures
<i>Factors related to the interface between liveware [human] and Air traffic control operational procedures associated with the task of controlling/separating aircraft.</i>		
401030200	Human interface-Standard Instrument	Human v SIDS/STARS
<i>Factors related to the interface between liveware [human] and Standard Instrument Departure and Standard Arrival Routes procedures.</i>		
401030300	Human interface-noise abatement procedures	Human v noise abatement
<i>Factors related to the interface between liveware [human] and noise abatement procedures.</i>		
401040000	Human interface-aerodrome procedures	Human v aerodrome procedure
<i>Factors related to the interface between liveware [human] and aerodrome related procedures.</i>		
401050000	Human interface-maintenance procedures	Human v maintenance procedures
<i>Factors related to the interface between liveware [human] and engineering maintenance procedures.</i>		
401050100	Human interface-maintenance recording	Human v maintenance recording
<i>Factors related to the interface between liveware [human] and maintenance recording procedures (including process sheets).</i>		
401060000	Human interface-company procedures	Human v company procedure
<i>Factors related to the interface between liveware [human] and company procedures.</i>		
401070000	Human interface-other procedures	Human v other procedures
<i>Factors related to the interface between liveware [human] and procedures other than those listed above.</i>		
401080000	Human interface-custom and practice	Human v custom & practice
<i>Factors related to the interface between liveware [human] and custom and practice at the workplace, i.e. not related to written procedures/instructions.</i>		
402000000	Human interface-training	Human v training
<i>Factors related to the interface between liveware [human] and training, e.g. poor training, lack of recurrent training, situations not trained for or need for more training. Positive aspects of training are not covered here.</i>		

ECCAIRS 4	Explanatory Factors	Data Definition Standard
402010000	Human/system interface-basic/initial training	Human v basic training
<i>Factors related to the interface between liveware [human] and initial training.</i>		
402010100	Human interface-training syllabus	Human v training syllabus
<i>Factors related to the interface between liveware [human] and the training syllabus, e.g. inclusion of training in use of maps/charts.</i>		
402020000	Human interface-specific training	Human v specific training
<i>Factors related to the interface between liveware [human] and training for a specific task.</i>		
402030000	Human interface-simulator training	Human v simulator training
<i>Factors related to the interface between liveware [human] and simulator training, e.g. for initial training, recurrent training, LOFT or CRM.</i>		
402040000	Human interface-on-the-job training	Human v on-the-job training
<i>Factors related to the interface between liveware [human] and on-the-job training.</i>		
402050000	Human interface-emergency training	Human v emergency training
<i>Factors related to the interface between liveware [human] and the training in how to handle emergencies.</i>		
402060000	Human interface-crew/team resource management training	Human v CRM/TRM
<i>Factors related to with the interface between liveware [human] and crew/team resource management training.</i>		
402070000	Human interface-recurrent training	Human v recurrent training
<i>Factors related to the interface between liveware [human] and recurrent training, including LOFT and CRM.</i>		
402070100	Human interface-Line Oriented Flying Training	Human LOFT
<i>Factors related to the interface between liveware [human] and Line Oriented Flying Training.</i>		
402080000	Human interface-route training	Human v route training
<i>Factors related to the interface between liveware [human] and training on the specific route.</i>		
402090000	Human interface-miscellaneous training issues	man v miscellaneous training
<i>Factors related to the interface between liveware [human] and miscellaneous training issues other than those listed above.</i>		
402090100	Human/system interface-use of automation	Use of automation
<i>Factors related to the interface between liveware [human] and training in the use of automation.</i>		
402090200	Human/system interface-use of maps/charts	Use of maps/charts
<i>Factors related to the interface between liveware [human] and training in the use of maps/charts.</i>		
402090300	Human/system interface-use of manuals	Use of manuals
<i>Factors related to the interface between liveware [human] and training in the use of manuals.</i>		
402090400	Human/sys interface-other miscellaneous training	Other training
<i>Factors related to the interface between liveware [human] and miscellaneous training other than that listed above.</i>		

403000000 Other human - system support issues

human/system interface-other

Factors related to the interface between liveware [human] and system support issues.

ECCAIRS 4	Explanatory Factors	Data Definition Standard
500000000	The liveware (human) - liveware (human) interface	Interface between humans
<i>Factors related to the interface between humans.</i>		
501000000	The interface between humans in relation to communications	Human v communications
<i>Factors related to the interface between humans in relation to communications.</i>		
501010000	The interface between humans in relation to oral/aural communications	an v spoken communications
<i>Factors related to the interface between humans in relation to oral/aural communications.</i>		
501010100	The interface between humans in relation to	mmunications between crew
<i>Factors related to the interface between humans in relation to communications between crew members.</i>		
501010200	The interface between humans in relation to air-air	nan v air-air communications
<i>Factors related to the interface between humans in relation to air-to-air communications between pilots of different aircraft.</i>		
501010300	The interface between humans in relation to air-	/ air-ground communications
<i>Factors related to the interface between humans in relation to communications between air and ground stations.</i>		
501010301	The interface between humans in relation	v ATC-pilot communications
<i>Factors related to the interface between humans in relation to communications between ATC and pilots.</i>		
501010302	The interface between humans in relation	i v company communications
<i>Factors related to the interface between humans in relation to company communications.</i>		
501010303	The interface between humans in relation	uman v party line information
<i>Factors related to the interface between humans in relation to overheard information between two other aircraft, or between ATC and another aircraft (including loss of 'party line' information with the advent of data link).</i>		
501010400	The interface between humans in relation to	und-ground communications
<i>Factors related to the interface between humans in relation to ground - ground communications (ATC - ATC, or aircrew - ground staff, when the aircraft is on the ground).</i>		
501010500	The interface between humans in relation to	Human interface-language
<i>Factors related to the interface between humans in relation to the use of a particular language, e.g. English in a French speaking area.</i>		
501010600	The interface between humans in relation to accent	Human interface-accent
<i>Factors related to the interface between humans in relation to accents in verbal communication.</i>		
501010700	The interface between humans in relation to	Human v phraseology
<i>Factors related to the interface between humans in relation to phraseology used in the communication.</i>		
501010800	The interface between humans in relation to	-human v readback/hearback
<i>Factors related to the interface between humans in relation to the readback/hearback of communications.</i>		
501010900	The interface between humans in relation to	Human v callsign confusion
<i>Factors related to the interface between humans in relation to actual or potential callsign confusion. See also, "Psychological - Action - Slip (slip-of-the-tongue)", and "Psychological - Information Processing/Decision Making".</i>		
501011000	The interface between humans in relation to noise	Human v noise interference
<i>Factors related to the interface between humans in relation to noise interference with communication.</i>		

501011100 **The interface between humans in relation to** Human v interpretation
Factors related to the interface between humans in relation to interpretation/misinterpretation associated with communication.

501020000 **The interface between humans in relation to written/read** written/read communications
communications
Factors related to the interface between humans in relation to communications - written, typed or displayed information.

501020100 **The interface between humans in relation to** Human v documentation
Factors related to the interface between humans in relation to the documentation for communication of information.

501020101 **The interface between humans in relation** v incomplete documentation
Factors related to the interface between humans in relation to documentation being incomplete or missing.

501020102 **The interface between humans in relation** n v maintenance information
Factors related to the interface between humans in relation to using maintenance engineering task sheets/cards as a means of recording and passing information.

501020200 **The interface between humans in relation to use of** Human v flight progress strip
Factors related to the interface between humans in relation to using flight progress strips as a means of recording and passing information.

501020300 **The interface between humans in relation to** n v data link communications
Factors related to the interface between humans in relation to the use of data link communications.

501020400 **The interface between humans in relation to** n v teletype communications
Factors related to the interface between humans in relation to the use of teletype communications.

501020500 **The interface between humans in relation to keying** Human v keying error
Factors related to the interface between humans in relation to keying errors.

501020600 **The interface between humans in relation to** Human v handwriting
Factors related to the interface between humans in relation to handwriting, e.g. misleading/unreadable handwritten annotation on flight progress strips.

501020700 **The interface between humans in relation to** Human v misreading
Factors related to the interface between humans in relation to misreading.

501020800 **The interface between humans in relation to** Human v feedback loop
Factors related to the interface between humans in relation to written, keyed-in, visual acknowledgements and the feedback loop, as opposed to, "Readbacks/Hearbacks", e.g. pressing a button on an electronic checklist to indicate that an item has been checked.

501030000 **The interface between humans in relation to visual signals** Human v visual signals
Factors related to the interface between humans in relation to the use of visual signals to communicate.

501030100 **The interface between humans in relation to** Human v ground-hand signals
Factors related to the interface between humans in relation to the use of ground-hand signals.

501030200 **The interface between humans in relation to** Human v visual signals
Factors related to the interface between humans in relation to the use of gestures to acknowledge something, e.g. 'thumbs-up' to indicate an affirmative.

50200000	The interface between humans in relation to interactions/team skills crew/team resource management training	Human v team skill/CRM
<i>Factors related to the interface between humans in relation to interactions between people; the team working.</i>		
50201000	The interface between humans in relation to team skills crew/team resource management training	Human v team skills
<i>Factors related to the interface between humans in relation to team skills, e.g. crew/team resource management training.</i>		
502010100	The interface between humans in relation to	Human v coordination
<i>Factors related to the interface between humans in relation to coordination between team members.</i>		
502010200	The interface between humans in relation to	Human v incompatibility
<i>Factors related to the interface between humans in relation to incompatibility between team members - crew/team resource management training.</i>		
502010300	The interface between humans in relation to	Human v confidence/trust
<i>Factors related to the interface between humans in relation to confidence/trust in other team member(s).</i>		
502010400	The interface between humans in relation to cross-	Human v cross-checking
<i>Factors related to the interface between humans in relation to cross-checking between team members.</i>		
502010500	The interface between humans in relation to	Human v authority gradient
<i>Factors related to the interface between humans in relation to the authority gradient - CRM/TRM, e.g. between pilot-in-command and co-pilot.</i>		
502010600	The interface between humans in relation to peer	Human v peer pressure
<i>Factors related to the interface between humans in relation to peer pressure/conformity.</i>		
502010700	The interface between humans in relation to	Human v team assertion
<i>Factors related to the interface between humans in relation to assertiveness within the team.</i>		
502010800	The interface between humans in relation to	Human v briefing team
<i>Factors related to the interface between humans in relation to briefings between team members - CRM/TRM.</i>		
502010900	The interface between humans in relation to self	Human v self feedback
<i>Factors related to the interface between humans in relation to self-feedback between team members.</i>		
502011000	The interface between humans in relation to joint	Human v decision process
<i>Factors related to the interface between humans in relation to the joint decision process between team members.</i>		
502011100	The interface between humans in relation to group	Human v group climate
<i>Factors related to the interface between humans in relation to team operations or 'atmosphere', without necessarily being able to determine what, specifically, was wrong.</i>		
502011200	The interface between humans in relation to team	Human v team planning
<i>Factors related to the interface between humans in relation to planning of the team activities, e.g. pre-flight planning.</i>		

502011300 **The interface between humans in relation to team** Human v managing workload
Factors related to the interface between humans in relation to team workload management, e.g. poor management of the workload or lack of delegation.

502020000 **The interface between humans in relation to formal coordination** Human v formal coordination
Factors related to the interface between humans in relation to formal coordination which is required by the procedures.

502030000 **The interface between humans in relation to shift/watch/team changeover** Human v team changeover
Factors related to the interface between humans in relation to problems which are, or may be, related to changeovers of personnel, usually associated with inadequate communication between the two individuals or teams, e.g. problems occurring in maintenance engineering as a result of information not being correctly recorded and therefore not passed across on shift changeover. N.B. problems associated with changing responsibilities between pilots would normally be addressed under CRM or SOPs. See also, "Maintenance Engineering Task Sheets/Cards; Procedures - ATC Procedures" (for handovers).

502040000 **The interface between humans in relation to other interactions** Human v-other interaction
Factors related to the interface between humans in relation to other interactions between people.

503000000 **The interface between humans in relation to supervision** Human interface-supervision
Factors related to the interface between humans in relation to supervision, e.g. lack of supervision, poor supervision.

503010000 **The interface between humans in relation to operational supervision** Human v operational supervision
Factors related to the interface between humans in relation to operational supervision.

503020000 **The interface between humans in relation to supervision during training** Human v training supervision
Factors related to the interface between humans in relation to supervision during training, e.g. failing to notice or correct a mistake made by a trainee.

503030000 **The interface between humans in relation to quality control** Human v quality control
Factors related to the interface between humans in relation to supervision of quality control, e.g. a maintenance engineering supervisor fails to notice that a task has been carried out incorrectly.

503040000 **The interface between humans in relation to standards** Human interface-standards
Factors related to interface between humans in relation to the supervision of standards, e.g. a supervisor allowing standards to lapse.

504000000 **The interface between humans in relation to regulatory activities** Human v regulatory activities
Factors related to the interface between humans in relation to regulatory activities, i.e. the processes by which regulation is carried out, as opposed to the regulatory issues themselves.

504010000 **The interface between humans in relation to regulatory procedures** Regulatory procedures
Factors related to the interface between humans in relation to regulatory procedures, as opposed to operational procedures, e.g. requirement to report incidents where safety has been jeopardized.

504020000 **The interface between humans in relation to regulatory standards** Regulatory standards

Factors related to the interface between humans in relation to regulatory standards, e.g. regulatory standards are considered to be inadequate.

504020100 **The interface between humans in relation to** Design standards

Factors related to the interface between humans in relation to design standards, e.g. design standards considered inadequate or outdated.

504020200 **The interface between humans in relation to** Certification

Factors related to the interface between humans in relation to certification standards, e.g. certification standards inadequate.

504030000 **The interface between humans in relation to regulations** Human interface-regulations

Factors related to the interface between humans in relation to regulations, poor regulations, or lack of regulation.

504040000 **The interface between humans in relation to inspections** Human interface-inspections

Factors related to the interface between humans in relation to inspections, e.g. inspections too infrequent.

504050000 **The interface between humans in relation to monitoring organizations** ace-monitoring organizations

Factors related to the interface between humans in relation to monitoring the activities of organizations or individuals.

504060000 **The interface between humans in relation to surveillance** Human interface-surveillance

Factors related to the interface between humans in relation to surveillance associated with regulations.

504070000 **The interface between humans in relation to audits** Human interface-audits

Factors related to the interface between humans in relation to audits, e.g. audits fail to detect problems with an organization.

504080000 **The interface between humans in relation to checks** Human interface-checks

Factors related to the interface between humans in relation to checks, e.g. checks not thorough enough.

505000000 **Other human human interface** Other human human interface

Factors related to the interface between humans in relation to other human-human interfaces.