



Annual report
[Translation from the Swedish original]

Financial year 2015

The annual report can also be found on SHK's website: www.havkom.se

This is a translation into English of the original Annual Report in Swedish. This translated version does not include the purely financial parts that form the second half of the Swedish original report.

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1. Focus of operations

1.1 Tasks

The Swedish Accident Investigation Authority (Statens haverikommission, SHK) has been tasked with investigating serious accidents and incidents at sea, in rail traffic, in air traffic, in road traffic and in other operations, all from a safety perspective. “Other operations” means all other operations in society besides the specified transport modes. SHK's investigative duties cover both civilian and military operations. SHK also cooperates with the various safety authorities in their accident prevention operations, as well as with the investigative bodies of other countries and certain international bodies working in the field, such as the European Maritime Safety Agency (EMSA), the European Railway Agency (ERA) and the European Aviation Safety Agency (EASA).

The purpose of SHK's investigations is to

- clarify, as far as possible, the sequence of events and their causes, as well as damages and other consequences,
- provide the basis for decisions aiming at preventing similar events from occurring in the future, or limiting the effects of such events, and
- provide a basis for an assessment of the operations performed by the public emergency services in connection with the event and, if there is a need, for improvements to the emergency services.

The sole purpose of SHK's operations is to improve safety. The authority has no inspection remit, nor is it any part of its task to deal with issues of blame, liability, damages or matters of certification, disciplinary measures, etc. This means that such matters are neither investigated nor discussed in connection with an investigation.

1.2 Provisions which regulate SHK's operations

SHK's operations are primarily regulated by the Accident Investigation Act (1990:712), LUO, the Accident Investigation Ordinance (1990:717), FOU, the Ordinance (2007:860) with instructions for SHK, as well as Regulation (EU) No 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation, and Commission Regulation (EU) No. 1286/2011 on adopting a common methodology for investigating marine casualties and incidents.

Also of great importance to the investigations are Directive 2009/18/EC of the European Parliament and of the Council establishing the fundamental principles governing the investigation of accidents in the maritime transport sector (the Marine Accident Investigation Directive), and Directive 2004/49/EC of the European Parliament and of the Council on safety on the Community's railways

(the Railway Safety Directive), as are Annex 13 of the Chicago Convention¹ and the IMO Code².

2. RESULTS

2.1 Goals

The investigations of accidents and incidents carried out by SHK shall be concluded as soon as possible and preferably within twelve months of the accident or incident.

2.2 Operational development

2.2.1 Overall assessment

SHK's overall assessment is that the development of its operations has been very positive and that the authority has, on the whole, fulfilled the operational targets for 2015, even if there is still room for improvement where investigation times are concerned. SHK's cooperation with the concerned safety authorities, other countries' investigatory bodies and relevant international bodies works well in all material aspects and continues to improve.

The number of final reports published remained at a high level in 2015. The proportion of investigations that could be concluded within twelve months has increased markedly and is now at 80 per cent, compared with 47 per cent in 2014. Both the backlog of ongoing investigations at the end of the year and the average and median handling times for the investigations concluded over the course of the year have reduced.

Admittedly, the proportion of ongoing investigations at the end of 2015 which were older than 12 and 20 months respectively at that point has increased somewhat since 2014, but this is still a significant improvement compared to the situation as it was in 2013. Nevertheless, this is something which SHK will need to keep an eye on moving forward.

The operations are almost entirely event-driven. New accidents and incidents call for quick handling initially, partly in order to make a correct assessment of whether or not they should be investigated and partly to ensure no investigation material is lost. This in turn means that, repeatedly, investigations already underway must be set aside.

In addition, the number of initiated investigations in civil maritime operations has now increased significantly. Furthermore, in civil maritime operations, it is a statutory requirement for a formalised preliminary assessment to be carried out of certain categories of

¹ The Convention of 7 December 1944 on International Civil Aviation, whose Annex 13 contains International Standards and Recommended Practices for the investigation of accidents and incidents in civil aviation.

² The International Maritime Organisation (IMO) Code of International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code).

incidents, even if these do not ultimately result in an investigation. An assessment of this nature not infrequently requires a preliminary investigation directly at the scene of the accident, which in turn means a disruption to the work with other ongoing investigations.

Overall, this means that handling times are very difficult to predict. In some cases, primarily where international collaboration is involved, they can also be difficult – if at all possible – for SHK to influence. It is therefore far from always “possible” to conclude an investigation within twelve months of the event. Of course, this does not alter the fact that the authority is obliged to constantly strive towards that goal. SHK's assessment is also that the efforts that have been made in this respect – efforts which are still underway and will continue to be so – have brought SHK gradually closer to that goal.

Measures to improve the planning and follow-up of the investigative work have been implemented. A goal has now been set in the overall work plan for 2016; that at least 80 per cent of SHK's investigations shall be concluded within twelve months and that no investigation shall take longer than 18 months. The work to introduce a comprehensive operations management system continues and is expected to be fully implemented in 2016.

The number of reported events in civil maritime operations that must be assessed has been on the increase for a number of years, though there was an insignificant decrease in 2015. The number of events in civil maritime operations requiring investigation decreased marginally in 2015. However, these investigations are more complicated and more extensive on average than their counterparts in civil aviation. Staffing in maritime operations has previously been a problem that has led to delayed investigations and greater backlogs. However, new recruitments in the area have led to significantly better conditions for the investigative work. This became apparent in 2014, when the number of published final reports in the maritime area that year was the same as for the preceding six years combined. In 2015, the handling times for maritime investigations have decreased and the average handling time was less than twelve months.

At the same time, there is no escaping the fact that the authority needs additional budgetary funds for human resources in order to sustainably achieve the goal of shorter handling times also in the maritime area, and at the same time maintain the preparedness to handle major accidents which the authority is required to have. SHK intends to return to this matter in the budget application for 2017-2019.

2.2.2 *Structure of the Results section*

General

“New cases” are all accidents and incidents reported to SHK over the year. “Concluded cases” are all cases concerning accidents and incidents which SHK has closed over the year. “Initiated investigations” concern the events that SHK has decided to investigate over the year, and “issued final reports” relate to investigations concluded over the course of the year for which final reports have been published.

SHK's reporting of investigative operations is divided into: civil maritime operations, rail traffic, civil aviation, military operations and investigations of other operations.

SHK has chosen to fulfil its reporting duty by reporting statistics from each area for the past three years, and then to comment on these statistics and on other factors which are of interest to the achievement of the goal.

Statistics on the total number of cases received and concluded, plus the opening and closing balance (backlog), are presented for each area, as well as the number of cases in which the decision was made to launch an investigation or to carry out a formal preliminary assessment (applicable in the field of maritime operations only), the number of final reports and the extent to which the likely cause of the accident could be established, the number and proportion of final reports produced within twelve months and the average and median handling times in months. Furthermore, there are statistics for the number of ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively as well as average and median handling times in months. Finally, a report is given of SHK's assessment of the responses received over the year to its safety recommendations directed at e.g. supervisory authorities.

Concerning foreign investigations in which SHK has participated but where the investigation was or is led by the investigative authority of another state, only the number of received and concluded cases and the opening and closing balances are reported.

Incidents

In this context, it should be pointed out that incidents are not reported separately from accidents. The reason for this is primarily that it is often purely down to chance whether an event has had such consequences as would lead it to be classified as an accident or as an incident in accordance with the law. In many cases involving minor accidents, there are often circumstances which mean that the event can also be considered a near-miss in terms of a larger, serious accident.

Handling of safety recommendations

Safety recommendations are presented only for investigations led by SHK. The number of recommendations submitted over the course of the year is given here, as well as the number of recommendations implemented and not implemented respectively, and the opening and closing balances. A safety recommendation is considered to have been implemented if its purpose has been fulfilled, even if the recipient of the recommendation has chosen another way to implement it. If a recommendation is not considered implemented, this means the recipient has taken a final stance on the matter and decided not to take any measures in response to the recommendation, or at least not any measures that SHK considers suitable, or that the recipient has not submitted an account within the prescribed time and SHK has come to the conclusion that there is no purpose in allowing the case to be left open.

2.2.3 *Investigation of accidents and incidents*

In the following, SHK presents two key performance indicators as grounds for an assessment of the extent to which the authority has succeeded in its ambition to increase the efficiency of its investigative operations so that the handling times decrease over time in order to achieve the goal of a handling time of less than twelve months, where possible.

1. The number and proportion of investigations concluded within twelve months and the average and median handling times, as per each area of investigation.
2. The number of ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively as well as average and median handling times in months.

Table 1. Number and proportion of investigations led by SHK concluded within 12 months and average and median handling times in months

	2013	2014	2015
Total number of issued reports	29	36	35
Number of which concluded within 12 months	18	17	28
Percentage of which concluded within 12 months	62	47	80
Average investigation time	13.6	16.2	10.9
Median handling time	11.7	13.0	11.4

Over the year, 35 reports have been issued. This is still a high number, but represents a marginal decrease since 2014, when 36 reports were issued. In 2013, SHK issued 29 reports.

A total of 28 investigations were concluded within twelve months in 2015; a significant improvement when compared with both 2014 and 2013.

The proportion of investigations concluded within twelve months has increased from 47 per cent in 2014 to 80 per cent in 2015. In 2013, 62 per cent of investigations were concluded within twelve months.

The total average handling time has decreased from 16.2 months in 2014 to 10.9 months in 2015. In 2013, the average handling time was 13.6 months. The median time has also decreased; from 13.0 months in 2014 to 11.4 months in 2015. In 2013, the median time was 11.7 months.

Table 2. The number of SHK's ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively, and average and median handling times in months

	2013	2014	2015
The number of ongoing investigations at the end of the year	39	32	22
Proportion that had exceeded 12 months in %	36	13	18
Proportion that had exceeded 20 months in %	18	0	5
Average investigation time at the end of the year	10.9	6.6	7.2
Median handling time at the end of the year	7.0	5.8	5.8

By the end of the year, SHK had a total of 22 ongoing investigations, which is a decrease of ten investigations since 2014. In 2013, the number of ongoing investigations at the end of the year was 39.

The proportion of ongoing investigations at the end of the year that had at that time exceeded an investigation time of 12 months has increased somewhat compared with 2014, but is significantly below the 2013 level.

At the end of 2015, there was only one ongoing investigation that exceeded 20 months. At the end of 2014 and 2013, the proportion of investigations that exceeded 20 months was 0 and 18 per cent respectively.

The average investigation time for the ongoing investigations at the end of 2014 was 7.2 months. For 2014 and 2013, the average investigation time was 6.6 and 10.9 months.

The handling time for concluded investigations and ongoing investigations at the end of the year per area of operations is commented on in the following.

Civil maritime operations

Where civil maritime operations are concerned, all investigations in which SHK has decided to delegate the task of leading the investigation to the investigative body of another state, in accordance with Section 8 d of the Accident Investigation Ordinance (1990:717), are dealt with separately (see table 6). These decisions are motivated by the requirement in the same provision for each accident or incident at sea to be subject to only one investigation carried out by an EU Member State. According to the Marine Accident Investigation Directive, concerned Member States shall therefore agree on who shall lead an investigation of this nature.

The possibility for SHK to influence the investigation time for these investigations is almost non-existent, and the cases are concluded only once a final report is issued by the accident investigation authority of the other country. Therefore, no statistics are given with respect to the handling times of these investigations. Any safety recommendations in such cases are followed up by the foreign investigative body and not by SHK, for which reason the handling of recommendations issued in these investigations is also not included in this report.

Table 1. Total number of cases (including investigations led by another state)

Year	2013	2014	2015
Opening balance	10	21	19
New cases	171	222	217
Concluded cases	160	224	220
Closing balance	21	19	16

Table 2. Preliminary assessments, initiated investigations and issued final reports – investigations led by SHK

Year	2013	2014	2015
Preliminary assessments	23	22	6
Investigations initiated	6	10	8
Issued final reports	1	11	10
Likely cause of accident established	1	11	10

Table 3. Number and proportion of investigations concluded within 12 months and average and median handling time in months – investigations led by SHK

	2013	2014	2015
Total number of issued reports	1	11	10
Number of which concluded within 12 months	0	2	7
Percentage of which concluded within 12 months	0	18	70
Average investigation time	16.3	20.4	12.6
Median handling time	16.3	16.9	11.9

Table 4. The number of SHK's ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively as well as average and median handling times in months

	2013	2014	2015
The number of ongoing investigations at the end of the year	12	11	10
Proportion that had exceeded 12 months in %	50	18	20
Proportion that had exceeded 20 months in %	25	0	10
Average investigation time at the end of the year	12.9	6.6	7.7
Median handling time at the end of the year	9.84	6.3	6.1

Table 5. Safety recommendations – investigations led by SHK

Year	2013	2014	2015
Opening balance	0	8	23
Issued	8	33	26
Implemented	0	16 ³	29
Not implemented	0	2	14⁴
Closing balance	8	23	6

The number of occurrence reports received has decreased marginally since 2014, but is still on a high level compared with 2013 and the years preceding. The number of initiated investigations has also decreased marginally since 2014, but is greater than in 2013 and the years preceding. The outgoing balance has continued to decrease since 2013 and 2014 and the number of reports issued remains in principle

³ Of which one has been deemed partially implemented and one has been withdrawn by SHK.

⁴ Of which ten were concluded as no responses to recommendations were received by SHK.

on the same high level as in 2014 and is thereby also far above the levels of previous years. Over the year, six preliminary assessments have been made by SHK, which is fewer than in both 2014 and 2013. One reason for this is that the experience of having worked for a number of years in accordance with the Marine Accident Investigation Directive has led to a more strict interpretation of what is considered a serious (but not very serious) accident in the sense of the Directive than initially was the case.

The average handling time for investigations concluded in 2015 was just over 12 months, which is a significant improvement in relation to both 2014 and 2013. This shows that the increase in resources on the maritime investigation front, as well as the work to finalise old investigations and systematically follow up ongoing investigations, has produced results. The median handling times have also decreased markedly and are now below the 12-month mark.

Over the year, 10 final reports have been issued. Likely causes of the accidents and incidents have been established in all cases, which was the same as in 2014 and 2013.

Of the final reports submitted over the year, 70 per cent were concluded in under twelve months; a very significant improvement since 2014, when only 18 per cent were concluded in under twelve months. The three reports for which the investigation time exceeded twelve months are commented on in the following.

RS 2015:03 concerns a barge sinking in connection with towing in Lagnöström, Stockholm County. The investigation time was 23 months. The main reason for the unacceptably long investigation time can be found among those reported in last year's annual report; i.e. an unforeseen turnover of investigative personnel and a significant increase in the number of maritime occurrence reports received and maritime investigations initiated, whilst at the same time older investigations were prioritised.

The same applies to RS 2015:05, which concerned the sinking of a fishing vessel at Skagen, Denmark. The investigation time for the case was just over 17 months.

RS 2015:06 concerns an accident with a smaller fishing boat in Hjälmarén. Two people died in the accident. The investigation time was just over 12 months; also as a result of the workload in the maritime investigation area.

In 2015, 26 new safety recommendations were issued whilst 43 responses were assessed. The closing balance of 6 recommendations consists of cases in which either the time to respond to recommendations has not yet expired or the responses have not yet been finally assessed by SHK.

Among the recommendation responses assessed by SHK over the year, 29 have been considered implemented. The remaining 14 recommendations have been deemed not implemented; 10 of which due to the recipients not responding to the recommendations. These safety recommendations were issued to the following recipients: Interscan Schiffahrts-gesellschaft mbH (RS 2013:01 R1-R5), Sveriges Skogsindustrier (RS 2013:01 R8), Wagenborg Shipping BV (RS 2014:03 R1 and R3), Sakhalin Shipping Company (RS 2014:03 R2), and the Netherlands' Ministry of Infrastructure and the Environment (RS 2014:03 R5). It can be established in this context that, in accordance with Section 17 of the Accident Investigation Ordinance (1990:717), only authorities are obliged by law to respond to SHK's safety recommendations; a situation which as an aside must be considered unsatisfactory.

Of the four responses to safety recommendations received by SHK which were not considered to have been implemented, the recipients regarding three of the recommendations have later submitted supplementary responses to the recommendations (RS 2015:01 R1-R3). SHK has not yet taken a final stance as to whether the assessment shall be changed for any of these. Presented below is the remaining recommendation finally assessed not to have been implemented.

RS 2013:01 concerns the cargo vessel PHANTOM which was loaded with sawn timber in Oskarshamn. Outside the island of Öland, the cargo shifted and the vessel heeled heavily but could be towed to quay. SHK presented several safety recommendations in its final report, one of which (RS 2013:01 R7) was directed to the ship's flag state of Gibraltar and involves a recommendation concerning the improvement of checks when reviewing and approving manuals for securing loads so that the instructions in the manuals become usable to the crews on board their ships. The flag state has responded in brief that approval of manuals for securing loads has been delegated to a classification society. The recommendation has therefore not been considered implemented.

Table 6. Maritime investigations led by another state

Year	2013	2014	2015
Opening balance	1	6	4
New cases	5	2	1
Concluded cases	0	4	3
Closing balance	6	4	2

Over the year, one investigation has been initiated which is led by the investigative body of another country and which SHK is participating in. It concerns a fire on board a Polish-flagged tug boat which was lying at berth in the port of Sölvesborg. Four Polish crew members died.

In maritime investigations which, in agreement with the concerned states, are led by the investigative body of another country, SHK often has a delimited task to handle during the investigation. The amount of work required varies greatly. However, the work contribution to some of these investigations can be significant, which thus has a negative impact on SHK's other investigative work. Over and above its own labour input, SHK has very limited – if any – opportunities in such investigations to influence the investigation work and thereby also the handling time.

Over the year, three final reports have been issued for investigations led by foreign bodies and in which SHK has assisted.

Rail traffic

Table 1. Total number of cases

Year	2013	2014	2015
Opening balance	8	5	4
New cases	56	59	47
Concluded cases	59	60	50
Closing balance	5	4	1

Table 2. Initiated investigations and issued final reports

Year	2013	2014	2015
Investigations initiated	1	4	1
Issued final reports	4	5	4
Likely cause of accident established	4	4 ⁵	4

Table 3. Number and proportion of investigations concluded within 12 months and average and median handling times in months

	2013	2014	2015
Total number of issued reports	4	5	4
Number of which concluded within 12 months	0	0	4
Percentage of which concluded within 12 months	0	0	100
Average investigation time	20.1	21.6	11.7
Median handling time	17.9	20.3	11.8

⁵ One of the concluded investigations related to a thematic investigation, *Safety during track work*, in which the determination of individual causes of accidents did not play a part.

Table 4. The number of ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively, and average and median handling times in months

	2013	2014	2015
The number of ongoing investigations at the end of the year	5	4	1
Proportion that had exceeded 12 months in %	80	0	0
Proportion that had exceeded 20 months in %	20	0	0
Average investigation time at the end of the year	16.4	5.1	3.9
Median handling time at the end of the year	15.4	5.5	3.9

Table 5. Safety recommendations

Year	2013	2014	2015
Opening balance	6	1	6
Issued	10	15	4
Implemented	13 ⁶	10	9⁷
Not implemented	2	0	1
Closing balance	1	6	0

The number of occurrence reports received has decreased somewhat in 2015 compared with 2014 and 2013. The number of initiated investigations has decreased compared with 2014 and is back at the same level as in 2013.

Over the year, final reports were published for four cases, which represents a marginal decrease when compared with 2014 but is on the same level as 2013. The likely cause of accident was established in all cases, which was also the case in the final reports for 2014 and 2013.

All of the four investigations closed over the year could be finalised in less than twelve months. This is a marked improvement when compared with both 2014 and 2013, when none of the concluded investigations were concluded within 12 months. The average and median handling times have also improved considerably, and are almost half those of 2014 and 2013. In light of the fact that rail investigations have previously tended to drag on (for reasons discussed in previous annual reports), it is of course gratifying that the authority's endeavours to reduce the investigation times have started to have a visible effect.

⁶ Of which one has been deemed partially implemented.

⁷ Of which one has been deemed partially implemented.

The outgoing balance has also decreased and at the end of 2015 SHK had only one ongoing case. This represents an improvement compared with 2014 and 2013.

Over the year, four safety recommendations have been issued. SHK has assessed ten responses to recommendations. Of these, eight have been considered implemented, one as partially implemented and one as not implemented. Presented below are the recommendations which were deemed either not implemented or only partially implemented.

Final report RJ 2014:05 is SHK's thematic investigation regarding safety during work in a track environment. In the report, the Swedish Transport Agency was recommended to endeavour to establish a sector-wide database for accident and incident management (RJ 2014:05 R4) and to follow up a previous audit in which the Transport Agency noted shortcomings on the part of the Transport Administration in terms of poor local knowledge, a lack of documented risk assessments and work performed without protection equipment or using the wrong equipment (RJ 2014:05 R5). Concerning safety recommendation RJ 2014:05 R4, the Transport Agency has responded that a sector-wide database would entail major costs which will not necessarily produce good economic benefits. As the Transport Agency for these reasons did not intend to endeavour to establish a database of this kind, the recommendation could not be considered implemented. In response to recommendation RJ 2014:05 R5, the Transport Agency reported on certain measures planned within the Group for National Collaboration (GNC Rail). Even if SHK saw these measures as positive, the need – as identified by SHK – to follow up on the audit had not been satisfied in any concrete way. The recommendation was therefore considered only partially implemented.

Civil aviation

For the area of civil aviation, investigations which in accordance with Annex 13 of the Chicago Convention are carried out by accident investigation authorities in other countries – but where SHK should or may appoint an “accredited representative” – are reported separately (see table 7). The possibility for SHK to influence the handling time for these investigations is almost non-existent, and the cases are concluded only once a final report is issued by the accident investigation authority of the other country. Therefore, no statistics are given with respect to the handling times of these investigations. The safety recommendations issued by the foreign investigative body are followed up by that authority and not by SHK, for which reason statistics on the handling of recommendations are also not presented for these cases.

To a varying degree, however, these investigations also require work contributions from SHK. In this way, they also have a negative impact

on SHK's own investigations in terms of handling times and the total number of investigations carried out.

Table 1. Total number of cases (including investigations led by another state)

Year	2013	2014	2015
Opening balance	44	36 ⁸	31
New cases	168	150	126
Concluded cases	177	155	133
Closing balance	35	31	24

Table 2. Investigations initiated by SHK, by aviation category and type of aircraft

Category	2013	2014	2015
Commercial aviation	4	7	1
Private aviation	12	9	11
Civil state aviation	-	1	-
Total	16	17	12
<i>According to type of aircraft</i>			
Large aircraft ⁹	2	5	-
Multi engine light aircraft	1	-	2
Single engine light aircraft	8	2	5
Seaplane	-	2	-
Helicopters	3	4	1
Gliders	1	4	4
Hot air balloons	1	-	-
Other	-	-	-

⁸ One international case, L-122/13, is missing from the closing balance for 2013.

⁹ Large aircraft are aircraft with a maximum mass exceeding 5,700 kg.

Table 3. Final reports issued by SHK, by aviation category and type of aircraft

Category	2013	2014	2015
Commercial aviation	7	9	3
Private aviation	12	10	13
Civil state aviation	-	-	1
Total	19	19	17
<i>Type of aircraft</i>			
Large aircraft	6	4	2
Multi engine light aircraft	-	1	-
Single engine light aircraft	6	7	3
Seaplane	1	1	1
Helicopters	2	6	4
Gliders	3	-	7
Hot air balloons	1	-	-
Other	-	-	-
Likely cause of accident established	19	19	17

Table 4. Number and proportion of investigations concluded within 12 months and average and median handling time in months – investigations led by SHK

	2013	2014	2015
Total number of issued reports	19	19	17
Number of which concluded within 12 months	17	14	16
Percentage of which concluded within 12 months	89	74	94
Average investigation time	9.1	12.9	8.4
Median handling time	9.7	11.2	9.4

Table 5. The number of SHK's ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively as well as average and median handling times in months

	2013	2014	2015
The number of ongoing investigations at the end of the year	14	12	7
Proportion that had exceeded 12 months in %	21	0	14
Proportion that had exceeded 20 months in %	14	0	0
Average investigation time at the end of the year	9.4	5.7	7.4
Median handling time at the end of the year	5.6	5.7	6.2

Table 6. Safety recommendations

Year	2013	2014	2015
Opening balance	29	19	16
Issued	13	13	9
Implemented	23 ¹⁰	9	12¹¹
Not implemented	0	7	2
Closing balance	19	16	9

The number of occurrence reports received has decreased in relation to both 2014 and 2013. In terms of initiated investigations, these have also decreased marginally compared with both 2014 and 2013. The backlog of aviation cases has also decreased since the previous year.

The average handling time for investigations concluded in 2015 was just over 8 months, which is a marked improvement in relation to 2014 and is also an improvement when compared with 2013. The median time has also decreased in relation to both 2014 and 2013. These reduced investigation times can be partly explained by the concerted effort made the previous year to finalise old investigations, and partly by a reduction in the number of occurrence reports received and investigations initiated. This has provided better opportunities to work with greater focus on fewer and more recent cases.

The closing balance of still ongoing investigations in the field of civil aviation included 14 per cent (one case) with a handling time exceeding twelve months by the end of the year. This is a deterioration compared with 2014 but an improvement on 2013, when 0 and 21 per cent (two cases) respectively were older than 12 months.

¹⁰ Of which four have been deemed partially implemented.

¹¹ Of which one has been deemed partially implemented.

During the year, 17 final reports have been issued; a marginal reduction in relation to 2014 and 2013, when 19 reports were issued.

Likely causes of the accidents and incidents have been established in all cases, which was the same as in 2014 and 2013.

Of the final reports issued over the year, 94 per cent were produced within a period shorter than twelve months. This is a marked improvement compared with 2014 and also an improvement compared with 2013. The one investigation for which the investigation time exceeded twelve months is commented on in the following.

RL 2015:10 concerns a serious incident involving an aircraft in scheduled passenger traffic at Torsby Airport. The investigation time was just under 17 months. The investigation was the third in a row concerning the same operator within a relatively short period of time. This gave rise to more in-depth investigations and contact with both Swedish and foreign authorities. The investigation was also relatively complicated from an operational viewpoint and there were certain difficulties obtaining necessary information from the foreign operator. These factors combined resulted in the longer handling time.

In 2015, 9 new safety recommendations were issued whilst 14 were considered by SHK to be implemented. The closing balance of 11 recommendations consists of cases in which either the time to respond to recommendations has not yet expired or the responses have not yet been finally assessed by SHK.

Among the recommendation responses assessed by SHK in the past year, 12 have been considered implemented, though one of which only partially implemented. Two recommendations have been considered not implemented. Presented below are the recommendations that have not been implemented and the recommendation that was only considered partially implemented.

RL 2014:09 concerns an accident involving a helicopter in Porjus, Norrbotten county, where the main rotor separated from the helicopter immediately after touchdown in connection with an autorotation landing. The accident was a result of the design of the lubrication system of the freewheel, allowing certain pollutants to block the flow of oil to the freewheel.

EASA was recommended to try to ensure that the oil system's sensitivity to pollutants is reduced (RL 2014:02 R1), and to ensure that operators of this helicopter type are provided with information and suggestions for preventive measures regarding the risk of contamination of lubrication system of the freewheel (RL 2014:09 R2). EASA, however, did not find sufficient reason to take any action.

RL 2015:11 concerns an accident involving a helicopter outside of Kungsängen, Stockholm county, where the engine stopped due to a lack of fuel during flight and the helicopter received extensive damages following autorotation. The engine's lack of fuel was caused by a malfunctioning fuel transfer system. The fact that the fuel transfer system was not functioning was due to a clogged check valve. The check valve in the fuel transfer system had reduced function due to contaminants, which meant that the remaining fuel could not be utilised and the engine therefore stopped due to lack of fuel. A contributing factor to the incident was that maintenance instructions regarding annual checks of the fuel transfer system, which had been expanded by the type certificate holder, were not adhered to and that these checks were therefore not performed.

The Transport Agency was recommended to develop supervisory methods so that relevant licence holders ensure maintenance programmes are based on the latest data from the type certificate holders (RL 2015:11 R2). The measures carried out by the Transport Agency in response to the safety recommendation concerned information initiatives targeting bodies responsible for airworthiness and maintenance, but did not address the issue of how the Transport Agency's own supervisory methods could be improved. The recommendation was therefore considered only partially implemented.

Table 7. Foreign aviation investigations in which SHK has assisted

Year	2013	2014	2015
Opening balance	25	21 ¹²	19
New cases	10	9	8
Concluded cases	15	11	10
Closing balance	20	19	17

In accordance with Annex 13 of the Chicago Convention, over the year SHK has had either an accredited representative or an expert appointed to eight new investigations abroad. In 2014, SHK was engaged in nine such investigations and in 2013 the corresponding figure was ten. In 2015, ten such cases could be concluded. The outgoing balance has therefore decreased somewhat in relation to both 2014 and 2013.

¹² One international case, L-122/13, is missing from the closing balance for 2013.

Military operations

Table 1. Total number of cases (including investigations led by another state)

Year	2013	2014	2015
Opening balance	2	1	3
New cases	18	18	17
Concluded cases	19	16	15
Closing balance	1	3	5

Table 2. Initiated investigations and issued final reports

Year	2013	2014	2015
Investigations initiated	1	3	2
Issued final reports	2	1	2
Likely cause of accident established	1	1	2

Table 3. Number and proportion of investigations concluded within 12 months and average and median handling times in months

	2013	2014	2015
Total number of issued reports	2	1	2
Number of which concluded within 12 months	0	1	0
Percentage of which concluded within 12 months	0	100	0
Average investigation time	29.1	6.0	18.4
Median handling time	29.1	6.0	18.4

Table 4. The number of ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively, and average and median handling times in months

	2013	2014	2015
The number of ongoing investigations at the end of the year	1	3	3
Proportion that had exceeded 12 months in %	0	33	33
Proportion that had exceeded 20 months in %	0	0	0
Average investigation time at the end of the year	2.7	9.0	8.5
Median handling time at the end of the year	2.7	9.4	7.9

Table 5. Safety recommendations

Year	2013	2014	2015
Opening balance	15	37	0
Issued	22	0	16
Implemented	0	37 ¹³	0
Not implemented	0	0	0
Closing balance	37	0	16

The number of occurrence reports received was marginally lower than in 2014 and 2015. The difference in the number of investigations initiated is also marginal.

Two final reports have been published. The average handling time was just over 18 months and none of the investigations was concluded within 12 months. This is a deterioration compared with 2014, as far as the average handling time is concerned, but an improvement compared with 2013. The investigations will be commented on in the following.

RM 2015:01 concerned a serious incident during an aerial combat training exercise south-west of Gällivare involving two aircraft of type JAS 39 Gripen operated by the Swedish Armed Forces. The handling time was just over 13 months. The investigation was quite extensive and partly looked at organisational issues such as the formulation of and resource allocation to the aerial training, which can at least offer some explanation as to why the investigation was not concluded within 12 months.

RM 2015:02 concerned a serious incident entailing a near collision with a mast in Sänna involving a JAS 39 Gripen operated by the Swedish Defence Material Administration, T&E Directorate. The handling time was just over 23 months. This long investigation time is partly explained by the complex matter of the division of responsibility between different authorities.

The closing balance at the end of the year has increased somewhat compared with 2014 and 2013. Of the five cases in the backlog, however, two are international cases in which SHK assists the authority abroad conducting the investigation. At the end of the year, the average and median handling times for cases still underway were shorter than in 2014 but longer than in 2013.

16 safety recommendations have been issued over the year. SHK has not handled any responses to recommendations over the year. The closing balance of 16 recommendations consists of cases in which either the time to respond to the recommendations has not yet expired or the responses have not yet been finally assessed by SHK.

¹³ Of which three have been deemed partially implemented.

Other operations

Table 1. Total number of cases (including investigations led by another state)

Year	2013	2014	2015
Opening balance	3	1	2
New cases	11	12	8
Concluded cases	13	11	8
Closing balance	1	2	2

Table 2. Initiated investigations and issued final reports

Year	2013	2014	2015
Investigations initiated	1	1	1
Issued final reports	3	0	2
Likely cause of accident established	3	–	2

Table 3. Number and proportion of investigations concluded within 12 months and average and median handling times in months

	2013	2014	2015
Total number of issued reports	3	0	2
Number of which concluded within 12 months	1	–	1
Percentage of which concluded within 12 months	33	–	50
Average investigation time	22.6	–	14.5
Median handling time	18.8	–	14.5

Table 4. The number of ongoing investigations at the end of the year, the proportion of these that had then exceeded 12 and 20 months respectively, and average and median handling times in months

	2013	2014	2015
The number of ongoing investigations at the end of the year	1	2	1
Proportion that had exceeded 12 months in %	0	50	0
Proportion that had exceeded 20 months in %	0	0	-
Average investigation time at the end of the year	4.1	8.5	0.2
Median handling time at the end of the year	4.1	8.5	0.2

Table 5. Safety recommendations

Year	2013	2014	2015
Opening balance	0	11	0
Issued	15	0	10
Implemented	4 ¹⁴	5 ¹⁵	5
Not implemented	0	6	1
Closing balance	11	0	4

The number of occurrence reports received has decreased somewhat compared with 2014 and 2013. One new investigation has been initiated. It concerns an accident involving a wind turbine in Lemnhult, Jönköping county.

Two final reports were completed in 2015, which represents an increase since 2014 but a marginal decrease in relation to 2013. The probable cause of the accident has been established in both investigations. Both the average and median handling times were just over 14 months. The investigation which was not completed within twelve months will be commented on below.

RO 2015:01 concerned a fire in a residential care home for persons with special needs in Norrtälje municipality, in which three clients died. The investigation time was 17 months. The investigation was relatively complicated, particularly with respect to the responsibilities of different authorities for fire protection when issuing permits and exercising supervision over the services concerned, which may explain the longer investigation time.

In 2015, ten new safety recommendations were issued. Six responses to recommendations have been assessed. Of these, five have been considered implemented and one not implemented. The latter is commented on in the following. The closing balance of four recommendations consists of cases in which either the time to respond to recommendations has not yet expired or the responses have not yet been finally assessed by SHK.

In RO 2015:01 – i.e. the aforementioned final report regarding the fire in the residential care home in Norrtälje – the Health and Social Care Inspectorate (IVO) was recommended to formulate procedures in order to ensure that such operations are also scrutinized from a fire safety perspective during the process of permit issuance and supervision (RO 2015:01 R1). IVO responded that it was of the opinion that it does not have the legal authority to carry out inspections of the fire safety at such institutions and that there is also no legal ground for considering fire protection issues during the process of issuing permits for the operation of them. IVO therefore elected to await clarification of the current legal situation and any

¹⁴ Of which one has been deemed partially implemented.

¹⁵ Of which one has been deemed partially implemented.

clarification of the existing regulations before taking any further measures. IVO further stated that the authority intended to make contact with the Government Offices of Sweden on this matter.

SHK concluded that IVO and SHK had different views on the central matter of how the word “safety” in the Social Services Act (2001:453) should be interpreted and what the term entails. SHK's analysis and opinion on the matter are presented in the final report (sections 2.6 and 2.7). As IVO's opinion on the matter led the authority to decide not to take measures within the scope of permit issuance and supervisory operations to ensure that these kind of residential care homes are also safe from a fire safety perspective, the safety recommendation could not be considered implemented.

2.2.4 *Other safety work and cooperation with other bodies*

According to Section 1 of the Ordinance (2007:860) with instructions for SHK, SHK shall cooperate with the concerned safety authorities in their efforts to prevent accidents. SHK shall also collaborate with authorities and organisations in other countries in matters within SHK's remit. SHK considers that both national and international collaboration work is functioning well and constantly being developed.

In accordance with Section 6.2 of the Accident Investigation Ordinance (1990:717), FOU, the Swedish Transport Agency, the Swedish Armed Forces and the Swedish Civil Contingencies Agency (MSB) have a right to follow SHK's investigations. This allows them, where necessary, to take supervisory measures without delay. These authorities follow SHK's investigations by appointing an advisor in each investigation, who can then keep the respective authority informed of the progress of the investigation without being a part of the investigation team.

SHK also has regular meetings with these and other relevant authorities in order to discuss working routines of common interest, as well as specific safety recommendations issued in the investigations. At these meetings, changes in legislation are also discussed, as well as other current areas which are of interest from a safety perspective.

In addition to the contacts that go on continuously within the scope of the various accident investigations, in 2015 SHK has had two meetings with the Swedish Transport Agency's Road and Rail Department and two meetings each with the maritime and aviation sections of its Maritime and Aviation Department. In agreement with the Armed Forces, the Coast Guard and MSB, no formal collaboration meetings have been held between the authorities over the past year.

The communication and exchanges between the Armed Forces and SHK have nevertheless been frequent over the course of 2015, primarily in conjunction with ongoing investigations, but also in

connection with test flights involving large, unmanned aerial vehicles (UAVs). The purpose of the latter has been to disseminate knowledge to concerned authorities and operators of SHK's role in the event of a crash involving a UAV.

A large part of the international collaboration in which SHK is participating can be said to be obligatory as a result of various international law instruments. This is especially applicable within the EU, where such collaborations are formally regulated in Regulation (EU) No 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation and directives 2009/18/EC of the European Parliament and of the Council establishing the fundamental principles governing the investigation of accidents in the maritime transport sector (the maritime accident investigation directive) and 2004/49/EG on safety on the Community's railways (the railway safety directive).

Furthermore, many of SHK's accident investigations are of an international nature. This is especially applicable to aviation and maritime incidents. It is therefore important for SHK to collaborate also internationally by creating and upholding good contacts and increasing mutual understanding between accident investigation authorities in different countries. This facilitates the collaboration which then takes place within the scope of different international accident investigations.

2.2.5 *Maintaining of staff competence*

In accordance with Chapter 3, Section 3 of the Ordinance concerning the Annual Reports and Budget Documentation (2000:605), SHK shall report on measures taken to ensure that competence is available to complete the tasks laid down in the authority's instructions and, where applicable, in appropriation directions or other decisions to SHK by the Government. The report shall include an assessment of how the measures taken have contributed overall to the completion of these tasks.

General

Section 4 of SHK's instructions clarifies which different types of expertise shall be represented among the authority's accident investigators. At least one accident investigator aside from the Director General shall be a lawyer with professional judge experience. There shall also be accident investigators with operational and technical expertise from the aviation, maritime and rail sectors, general technical expertise, expertise in the area of civil protection and rescue services, as well as expertise in behavioural sciences.

By the end of 2015, SHK had 36 employees; 13 female and 23 male. Three employees were on leave of absence. The average age at the authority was 49. Over the year, seven new employees were taken on and four persons left their respective posts. Of the four no longer

employed, two had held only temporary positions, one retired and one left a permanent position.

Apart from this, in accordance with its instructions SHK engages external expert consultants in different areas to assist the authority in its investigations.

Attracting and recruiting

SHK strives to achieve that those applying for work at the authority encounter a recruitment process that is professional, efficient and transparent. Information on available positions is disseminated via SHK's website, the Swedish Public Employment Service, daily press and various professional media. The authority's recruitments during 2015 were all managed in accordance with the coherent sub-process of *Recruitment* within the scope of the operations management system.

When recruiting investigators, they are required to have several years of experience from the relevant area of expertise and a good ability to express themselves orally and in writing. The applicants' expertise is tested via both theoretical and practical tests.

As mentioned above, SHK has taken on seven persons in 2015. One of these positions was an add-on to existing human resources and six were replacement recruitments.

Experience gained from passed recruitments shows that the authority is perceived as an attractive workplace and that it is not difficult to recruit personnel.

SHK uses the services of contracted external expert consultants in a number of areas. The contracts signed during 2015 were managed in accordance with the coherent sub-process of *Procurement* within the scope of the operations management system. These experts are required to have a high level of expertise in their respective areas and the successful candidates must follow developments in their field of expertise and are responsible for their own professional development.

Developing

SHK's task places high demands on the experience and expertise of staff members. The compulsory requirements for candidates consist of theoretical knowledge and practical experience in their individual area of investigation. The professional development work is then conducted in accordance with the coherent sub-process of *Professional Development* within the scope of the operations management system.

All newly employed investigators begin with an introduction which, apart from internal rules and routines, includes training in advanced accident investigation, knowledge of public administration, safety at accident sites and other work environment issues. The accident

investigator training is updated, maintained and continuously developed using various follow-up and refresher courses.

For training of investigators in civil aviation, there are detailed recommendations issued by the International Civil Aviation Organisation (ICAO). An air accident investigator must have considerable experience from the field of aviation as a base for further training to become an accident investigator. Individual development plans corresponding to ICAO's *Training Guidelines* are applied for all investigators in the field of aviation. These are followed up continuously and, where required, supplemented with additional training with the purpose of updating the investigators' knowledge in line with developments in the area. Training in advanced accident investigation with a focus on civil aviation takes place abroad as such courses are not available in Sweden.

Also within the field of maritime investigation, there are relatively clear demands on investigator expertise and professional background. The International Maritime Organisation's (IMO) code on Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) and EU Directive 2009/18/EC, establishing the fundamental principles governing the investigation of accidents in the maritime transport sector, both refer to the part of IMO Res. A.996 (25) which concerns expertise criteria for marine accident investigators. In order to meet training requirements, SHK monitors the investigators' expertise and applies individual development plans which are supplemented when the need for new expertise is identified.

The rail traffic area has no similar expertise criteria at the international level, but SHK nevertheless has corresponding development plans for the authority's rail traffic investigators.

At least one personal development review per year is conducted with all employees, in which existing expertise is surveyed and individual professional development needs are identified.

Retaining

The staff turnover was 11.6 per cent in 2015, which is marginally higher than for the government administration as a whole, but represents an increase of 2.5 percentage points in comparison with the previous year when it was 9.1 per cent. In 2013, the staff turnover was 18.8 per cent.

SHK offers interesting and stimulating tasks of an advanced nature with good opportunities for professional development. The authority applies an individual pay structure for each employee, has a competitive wage level, flexible or non-regulated working hours and works actively with work environment issues as well as on equal treatment and non-discrimination. The authority also offers its

employees health check-ups, one hour per week paid time for health promoting activities and a yearly allowance to cover costs for such activities.

In order to provide all employees with the opportunity to follow developments within the authority, monthly information meetings are held for the entire staff. Departmental meetings, which are also an important source of information, are held regularly. In addition to this, all employees are involved in a yearly two-day out of office operational planning conference every autumn.

Phasing out

The training period for a new investigator is long, and in order to ensure transferral of expertise, replacements should ideally be recruited in good time prior to retirements. This makes them expensive. Two investigators in the area of civil aviation will reach retirement age in 2017, and in order to avoid the risk that important expertise in this area will be lost, the work to recruit a replacement will begin in 2016. One of SHK's investigators in the area of civil protection and rescue services retired in the spring of 2015. SHK has decided to defer a possible replacement in this area until completion of the review (SOU 2014:82) of, among other things, the provisions in the Accident Investigation Act (1990:712) on investigation of rescue services operations.

Overall assessment

SHK fulfils the expertise requirements laid down in its instructions.

SHK considers the measures taken in the human resources area to have contributed to the authority's ability to fulfil its duties in accordance with its instructions.

One condition for SHK to work efficiently and fulfil its duties and set goals is that it has qualified personnel on permanent contracts with a long history of experience and a high level of expertise. SHK has therefore had the strategy of increasing the number of investigators with permanent contracts rather than using temporary (contracted) consulting services. This strategy, combined with a reduced staff turnover in recent years, has led to greater efficiency in the form of shorter investigation times and smaller backlogs. This staff increase has been financed by a considerable decrease in the costs for consultants in recent years.

As mentioned above, the training period for a new investigator is long. Persons who both fulfil the high requirements in terms of experience and theoretical knowledge in their respective professional field investigation and have prior experience from work as a qualified accident investigator are seldom found.

This means the authority is very vulnerable not only in the event of retirements that although of course predictable are still costly, if a replacement is to work in parallel with the individual who is to leave so as to ensure that the expertise is transferred.

It also means that any other leave of absence, e.g. for studies, parental leave, due to illness or in order to gain experience in other areas, leads to a considerable setback in the investigative work. It is often the case that by the time a temporary replacement has been trained to a level sufficient in order to begin to take independent responsibility for an investigation, their temporary contract is almost at an end. This in turn leads to hiccups in the planning and, not least, to counteraction of the ambition to shorten investigation times. Additional human resources are required in order to address this problem.

Even if we disregard this, more staff will be needed in order to ensure, among other things, that the current goal of shorter handling times can be fulfilled and sustained over time also in the field of maritime investigation. SHK intends to return to this matter in its budget application for 2017-2019.

2.2.6 *Efficiency and sound economic management*

Section 2.2.3 presents two key performance indicators as grounds for an assessment of the extent to which the authority has succeeded in its ambition to increase the efficiency of its investigative operations so that the handling times decrease over time in order to achieve the goal of a handling time of less than twelve months, where possible. Presented in the following are three additional key performance indicators that SHK uses as a basis for the assessment of whether or not operations have been run efficiently and in a sound economic way:

1. How the total number of working hours has been distributed between the different processes.
2. The number and proportion of full time employees (FTE) in SHK's supporting functions in relation to the total number of FTEs.
3. Costs for administrative support in relation to total operational costs.

Key performance indicator no. 1 – How the total number of working hours has been distributed between the different processes

Below is a summary of how the total working hours for all employees, and respectively for investigators only, are distributed among SHK's various processes.

Table 1. Distribution of total working hours between SHK's various processes

Process	Proportion in % of total working hours 2013		Proportion in % of total working hours 2014		Proportion in % of total working hours 2015	
	All employees	Investigators	All employees	Investigators	All employees	Investigators
Accident and incident investigations	48	62	49	61	48	61
Collaboration	6	6	8	9	7	9
Professional development	8	11	8	11	5	7
Planning and follow-up	18	12	16	13	17	12
Support	20	9	19	6	23	11

SHK's core duties include investigative work, national and international cooperation with other authorities etc. on safety issues, and individual professional development. In 2015, 60 per cent of the total working hours have been spent on SHK's core activities. This is a decrease of five percentage points in comparison with the previous year, when the proportion was 65 per cent. For SHK's accident investigators, the proportion was 77 per cent of the total time, which is a decrease of four percentage points in comparison with 2014 when the proportion was 81 per cent.

The fact that the total time spent on core activities has decreased is explained by the fact that the proportion of employees in support functions has risen in relation to the total number of employees at SHK. The reduction is also explained by the fact that one of SHK's investigators, who held a temporary position in 2015, has spent much of their time on support functions.

In 2015, SHK has spent a great deal of resources developing the external website and creating an intranet. This was necessary, but at the same time, it takes up resources to the disadvantage of the core activities.

In addition to this, the reduction in the proportion of time spent on core activities on the part of the investigators is probably partly explained by ambiguities in the time reporting system and insufficient information on how reporting is to be done, which shall be remedied in 2016.

Time for professional development has reduced in comparison with the previous years, due to the fact that SHK has been somewhat more

restrictive with professional development initiatives in 2015 for budgetary reasons.

Key performance indicator no. 2 – The number and proportion of full time employees (FTE) in supporting functions in relation to the total number of FTE

As a measure of efficiency and sound economic management, FTE in support functions are reported in relation to SHK's total FTE. A decrease in the proportion of such functions in relation to the number of staff in the core activities may be an indicator that the authority's activities are being run more efficiently. Too small a proportion may however mean that staff in the core activities need to spend more of their working hours on administration at the risk of decreased productivity. Based on the authority's current remit and organisational division, SHK assesses that in order to achieve efficiency and a good balance between supporting and core activities, the proportion of support functions should not exceed 30 per cent of the total FTE.

Table 2. Number and proportion of support functions in relation to SHK's total FTE

Year	Total FTEs	Number of FTE in support functions	FTE in SHK's support functions, as a proportion of the total FTE.
2013	27.06	6.54	24 %
2014	27.95	6.98	25 %
2015	29.29	6.73	23 %

The proportion of support functions as a proportion of SHK's total FTEs has decreased by two percentage points in 2015 compared with the previous year. The reduction is explained by the fact that SHK's caretaker, who constituted a whole FTE, has been on leave over the year, during which time a temporary replacement was hired from a recruitment agency. If the caretaker were to be included in the calculations, the support functions as a proportion of SHK's total FTEs would instead amount to 26 per cent in 2015. This can be compared to the 25 per cent in 2014. The increase by one percentage point is explained by the fact that one additional registrar with a temporary position was recruited in 2015.

SHK, which is a relatively small authority, procures certain services externally in the area of administration in order to achieve cost effectiveness. These services include the areas of financial and human resource administration, IT operations and support, as well as support for larger public procurement projects. These services are not included in the statistics above.

Key performance indicator no. 3 – Costs for administrative support in relation to total operational costs

As an additional indicator of efficiency and sound economic management, an account is given below of the cost of SHK's various

forms of administrative support in relation to SHK's total operational budget (costs attributable to specific investigations not included), as well as an overview of this cost trend over time.

Reasoning similar to the above can also be applied here. A reduction of the costs for the administrative support in relation to the total administrative costs can be an indication that the authority's operations have been run more efficiently, but reduced resources in the support functions can also mean that staff in the core activities have to allocate more of their working hours to administrative duties at the risk of reduced productivity in the core activities. SHK assesses that in order to achieve efficiency and a good balance between the support and core activities, the costs for administrative support should not exceed 20 per cent of SHK's total administrative costs.

Table 3. Costs for administrative support in relation to total operational costs

Year	Costs for administrative support in relation to total operational costs
2013	16.5 %
2014	17.4 %
2015	16.1 %

The costs for the administrative support include salaries for staff and services contracted externally with respect to management, finances, registry, IT, communications and information, public procurement and other internal services.

SHK's costs for administrative support in relation to the total operational costs have decreased by just over 1 percentage point in comparison with the previous year. The decrease is down to the costs for administrative support in 2015 being on roughly the same level as for 2014 whilst SHK's total operational costs, primarily in the form of salary costs, have increased.

Other measures to increase efficiency

In addition to the key performance indicators above, SHK will account below for other significant measures taken in order to increase efficiency and improve resource management in the long term.

SHK's operations management system

For a number of years, SHK has been working on an operations management system for the authority. This work will be complete in 2016. The operations management system is expected to add greater clarity to how SHK's operations work and create a comprehensive view in which the core and support activities are well-defined and the division of responsibility clear. Furthermore, the system is expected to facilitate the transfer of knowledge and more uniform working methods, and reduce unnecessary administration. An effective operations management system will also lay the foundations for

suitable procedures for follow-up and evaluation of operational performance.

Electronic case management system

In January 2014, SHK introduced an electronic case management system and e-archive. With the purpose of further increasing the efficiency of the authority's case management, SHK has sent an official request to the Swedish National Archives (Riksarkivet) for their consent to paper documents being discarded once they have been scanned and stored in SHK's electronic case management system and e-archive.

Development of SHK's website and intranet

With a view to improving SHK's internal and external communication, SHK launched a new and more modern website in 2015 and work on an intranet was initiated. The intranet is estimated to be ready for publishing in late June 2016.

2.2.7 *Costs*

SHK has chosen to account for the costs for 2015 by the categories of specific investigative costs and other operational costs. Specific investigative costs are costs directly attributable to individual investigations, and other operational costs are costs for staff, training, intelligence, cooperation with other safety authorities, premises management and other running costs which are not directly attributable to a particular investigation.

Specific investigative costs

Table 1. Specific investigative costs (SEK thousands)

Year	Civil maritime	Rail traffic	Civil aviation	Military events	Other events	Total
2013	640	602	1,458	1,209	1,345	5,254
2014	628	285	1,314	364	727	3,318
2015	795	85	1,389	362	482	3,113

The specific investigative costs are event-driven and are decided primarily by which investigative initiatives are required and how much support from external specialists and consultants is required for ongoing investigations and investigations concluded during the year. SHK's specific investigative costs for 2015 have decreased by SEK 200,000 since the previous year. The decrease is explained by the fact that SHK has had lower costs for external consultants in 2015 than in 2014.

SHK's strategy of increasing the number of investigators with permanent contracts before using contracted external consultants has contributed to a continuous decrease in the costs for consultants in recent years.

Other operational costs

Table 2. Other operational costs (SEK thousands)

Year	Civil maritime	Rail traffic	Civil aviation	Military events	Other events	Total
2013	7,581	7,588	12,186	6,727	2,431	36,513
2014	9,948	6,558	15,199	1,882	2,824	36,411
2015	13,254	6,300	13,062	3,979	2,425	39,020

SHK's operational costs have increased in 2015 by SEK 2,609,000 since the previous year. This is explained by the increase in staff costs in connection with new staff appointments in late 2014 and throughout 2015.

The distribution of these other operational costs is also event-driven as they have been distributed on the basis of actual working hours spent per area of investigation.

In civil aviation, the operational costs have decreased by SEK 2,137,000 compared with 2014. This is largely explained by SHK's two military investigators having been involved in a lot of investigations on the civil aviation side of operations in 2014, which they were not in 2015. For the same reason, the costs in the military area have increased in 2015 compared with 2014.

The increase in costs by SEK 3,306,000 in the maritime area are partly explained by an increase in investigation staff and partly by the fact that some of the year's ongoing and concluded investigations have been extensive and have thereby demanded more of SHK's chairpersons and administrative personnel's time in 2015 than in 2014.

Total costs per area of investigation

Table 3. Total costs (SEK thousands)

Year	Civil maritime	Rail traffic	Civil aviation	Military events	Other events	Total
2013	8,221	8,190	13,644	7,936	3,776	41,767
2014	10,576	6,843	16,513	2,247	3,551	39,730
2015	14,049	6,385	14,452	4,340	2,907	42,133