

**MANAGEMENT OF RISKS AND OPPORTUNITIES IN THE
PROCESSES OF THE MANAGEMENT SYSTEM**

**APPROVED
GENERAL DIRECTOR**

Laurian ANASTASOF

**APPROVED
Head of Quality Department**

eng. Laurențiu ION

**REDACTED BY
SMS Manager**

eng. Cristian POPESCU

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1. PURPOSE

The risk management policy is described in this risk and opportunity management procedure adopted in the company for the processes within the quality management/compliance monitoring system (QMS), safety management system (SMS), safety management system (SMS), internal control system management (ICSM) and provides an operational framework for process owners to apply an appropriate system to achieve the objectives of risk and opportunity management: identification, assessment, treatment, management, monitoring and reporting of risk or opportunity events.

The objectives of the risk and opportunity management policy are:

- To ensure high quality, relevant and usable risk analysis;
- to promote common risk management practices in IAR S.A. through continuous training and communication activities;
- Clear definition of roles and responsibilities for risk management activities at the company level;
- Support the decision-making process at company level on risk reports and analysis;
- generating added value either from a resilience and business continuity or performance perspective.

The purpose of the risk management policy, from a safety point of view, is to provide IAR SA management with early information about the formation and perpetuation of unsafe practices and behaviors during the course of activities. The information comes from regular Safety Action Group (SAG) reviews and is brought to the attention of the Safety Review Board (Safety Review Board) whenever needed, as well as in the management review meeting.

2. DOMAIN

The procedure is applicable to the entire activity of IAR SA, the processes of the quality management system/compliance monitoring, the processes of the aviation safety management system/change management processes, the processes of the internal managerial control system, as defined in the specific Manuals and Presentation Memoranda.

The procedure covers all types of risks and opportunities, regardless of their nature and origin (e.g. program, project, contract, process, supplier, financial, security, aviation safety, compliance, strategy, change/modification, operational activity, quality, environmental, legal, social, human, contractual, claim, intellectual property, etc.), originating from internal and/or external sources.

3. REFERENCE DOCUMENTS

SR EN ISO 9000	Quality management systems. Fundamental principles and vocabulary.
SR EN ISO 9001	Quality management systems. Requirements.
EN ISO 9100	Quality management systems. Requirements for aviation, space and defence organizations.
SR ISO 31000	Risk management. Principles and guidelines.
AQAP..2110..and subsequent updates	NATO quality assurance requirements for design, development and production.
MQ-IAR-01	Quality Manual
OMFP 600 / 20.04.2018	Order on the approval of the Code of managerial internal control of public entities. Covering the standards of management / internal control in public entities and the Standard - RISK MANAGEMENT.
RMAR 145 - approved by Provision No. SMFA-3 of 17.01.2020 - Annex no.1	Romanian Military Aviation Requirements for Maintenance Organizations.
RMAR 21 - approved by Provision No. SMFA-6 of 04.02.2019 - Annex no.1	Requirements for the approval of State aircraft and related products, parts and appliances, and for the approval of design and production organizations.
Annex 19 of the International Civil Aviation Convention	Safety Management
OMT 1359/2022	National civil aviation safety program

4. DEFINITIONS AND ABBREVIATIONS

4.1. Definitions

Risk - effect of uncertainty, represents the uncertainty in achieving the desired outcome and is a combination of plausibility / probability and consequences / impact.

Risks fall into two distinct categories:

- organizational risks
- operational risks

Organizational risk- Potential threats that may adversely affect an organization. These may originate from internal or external sources related to the context in which the organization operates and can have a varied impact on the organization's operations, reputation and other aspects of the organization.

Operational risk - Risk that may affect the ability of a department/section within an organization to achieve its specific objectives, risk associated with the activities/processes of the department/section.

- **Safety risk** - The anticipated likelihood and severity of the consequences or outcomes of a hazard impacting safety. Safety risk can be both organizational and operational.

Risk event: an event (problem, situation, etc.) that has not yet occurred, but may occur in the future, and if it does occur the planned results are not achieved.

- **Opportunity** - any event or condition/circumstance with a possible positive impact on the achievement of the objectives, enabling situation, opportunity where the achievement of expected results is enhanced.

- **Opportunity event** - the event provides (additional) potential for achieving the outcomes.

Danger - a condition or object with the potential to cause death, injury to persons, damage to equipment or structures, loss of material or reduced ability to perform a prescribed function. For the purposes of aviation safety risk management, the term hazard should be focused on those conditions that could cause or contribute to the unsafe operation of aircraft or aviation safety-related equipment, products and services. Hazard is the proximity to the point at which safety is lost and is the effect of the materialization of risk. Examples of hazards: for an aircraft in flight the approach of birds is a hazard, the risk is striking; entering the sea is dangerous because there is a risk of drowning.

Safety - a condition where the risks associated with aeronautical activities, directly related to or in support of aircraft operation, are reduced and controlled to an acceptable level.

Safety risk management - the identification, analysis and elimination (and/or mitigation to an acceptable or tolerable level) of those hazards and associated risks that threaten an organization's business.

Defence - specific mitigation actions, preventive controls or recovery measures put in place to prevent a hazard from being realized or escalating into an unintended consequence.

Reducing/mitigating risks - the process of incorporating defenses or preventive controls to reduce the severity and/or likelihood of the consequence of a potential hazard.

Probability [P] (risk/opportunity materialization) - the possibility or likelihood that a risk/opportunity will materialize. Probability refers to the chance of the event occurring whether measured or determined objectively or subjectively, qualitatively or quantitatively. Probability is defined using general or mathematical terms.

Impact [I] (event impact) - It is the consequence of the risk event or opportunity event on the planned results (objectives) when the event occurs / materializes. If it happens, the risk event identified as a threat has negative consequences, while the opportunity may create positive effects/consequences (the opportunity condition on the process is exploited).

Risk materialization - Translating risk from the realm of uncertainty (the possible) to the realm of certainty (the fact), materialized risk is transformed from a possible problem into a real and difficult problem if the risk is a threat, or into a favorable situation if the risk is an opportunity.

Risk evaluation - Assessment of consequences in combination with assessment of the likelihood of risk materialization. Risk assessment is the evaluation of risk exposure, after identification in terms of probability and impact.

Risk tolerance - The "amount" of risk that an organization is prepared to tolerate/accept or is willing to expose itself to at any given time.

Inherent risk - A certain risk, before any mitigating action is taken.

Residual risk - The impact/severity of a risk after mitigating measures have been taken; hence residual risk is a measure of the effectiveness of management systems.

Register of hazards/risks and opportunities (RPR&O) - A document integrating the management of hazards/effects with the associated risks and opportunities, summarizing the information and decisions made as a result of the analysis of risks and opportunities.

Hazard/risk and opportunity management (MPR&O) - The totality of processes related to identifying hazards/risks and opportunities, assessing and evaluating risks, establishing responsibilities, taking action to mitigate or anticipate them, regularly reviewing and monitoring progress.

Objectives - the goals an organization sets for itself. General objectives are broken down at the operational level into derived and specific objectives. At the global level, objectives can be expressed in general terms, but at the operational level, objectives are defined precisely in terms of measurable performance indicators. Objectives therefore represent the results to be achieved at the level of the organization and at the level of each structural component within it.

Process - A set of interrelated or interacting activities that use inputs to deliver an intended result. Depending on the context of reference the "intended result" of a process is called output, product or service. In general inputs to a process are outputs of other processes, and outputs of a process are inputs to other processes. When referring to two or more processes in series that are interrelated and interacting, they can also be considered as one process.

4.2. Abbreviations / acronym

Abbreviations/acronyms are used throughout the procedure and are explained when they first appear in the text.

5. PROCEDURE

5.1. General

Management of hazards/risks and opportunities (MPR&O), involves:

- Periodic analysis of identified PR&Os for presentation at the management review meeting. The periodicity is determined in accordance with their hazards, processes and objectives and can be, as required: monthly, quarterly, semi-annually and/or annually (minimum once a year) .
- Development and approval of actions to limit the possible consequences of hazards with associated risks, i.e. actions required to capitalize on opportunities.
- Analyze any opportunities that may introduce new hazards/risks.
- Update the hazards with associated risks and opportunities when a major non-conformity arises that affects the QMS/ SMS/ SCIM in achieving the intended results.

Hazard/risk and opportunity (HR&O) are defined as having uncertainty in common, in that they are unpredictable events that can have negative or positive effects.

The resources available for MPR&O may be limited and the number of hazards/risks and opportunities may increase with the complexity of the process and the activities carried out to achieve the objective. Therefore, it is necessary to aim for an optimal risk response in a prioritized order according to the exposure at risk (ER) resulting from the risk assessment.

In each process, the necessary measures must be taken to manage the hazards/risks and opportunities (HR&O) up to the acceptable limit: risk tolerance (see point 5.3).

PR&O management strategy

- The management of hazards/risks and opportunities (MPR&O) applicable in the company's management system processes (defined in the "QMS Process Map" - MQ-IAR-01) shall take into account the following:
- Actions taken to achieve process objectives may lead to events or conditions that generate hazards/risks and opportunities, which may have positive or negative consequences. These events/conditions need to be identified and assessed;

- Hazards/risks identified and assessed can be accepted or tolerated if measures are taken to mitigate the impact on the objectives. These are low exposure risks (risk score) for which the applicable measures do not require additional financial resources;
- The identified and assessed hazards/risks (risk score) middle/major/critical are monitored by means of control tools (risk and opportunity register) and appropriate measures;
- Hazard/risk generating events shall not be ignored;
- Events with a positive impact on the achievement of the objectives (opportunities) specific to each directorate/compartment in the company are identified, analyzed, monitored and measures are taken to increase the probability of their fulfillment;
- Opportunities can be identified in any favorable situation or opportunity where the achievement of results is enhanced. They are analyzed to the extent that they introduce new risks and the effect on the intended results is monitored.

In safety, the process of risk management is the identification, analysis/assessment and elimination (reduction to an established acceptable level) of hazards (threats), with associated risks, to the safety of an organization's activities.

The risk treatment actions (see section 5.4) are:

- a. Risk acceptance (risk tolerance);
- b. Risk mitigation
- c. Transferring (externalizing) risk;
- d. Risk avoidance;

Actions to deal with opportunities (see section 5.5) are:

- a. Acceptance
- b. Reinforcement
- c. Sharing
- d. Exploitation

For actions to address hazards/risks and opportunities integrated into the processes of the quality management system/compliance monitoring, safety management system, safety management system, analysis and evaluation of their effectiveness are required.

5.2 Steps in the application of MPR&O process

Step 0: Defining the general, specific objectives and processes analyzed

Step 1: Hazard/R&O Identification

Step 2: Hazard/R&O Assessment

Step 3: Hazard/R&O Treatment

Step 4: Hazard/R&O Control

Step 5: Monitoring Hazards/Risks/Opportunities by processes

Step 6: Hazard/Risk/Opportunity Reporting, Communication, Status Review

5.2.1 Step 0: Defining the general, specific objectives and processes analyzed

It consists of:

- Definition of the general objectives, specific objectives (assumed by top management through the management plan, strategic plan, quality manual, presentation memories, safety manual, the purpose of a program / project (assumed by contract), the QMS/QMS/QMS/QMS processes and their related / subsequent activities;
- Definition of the internal and external environment in which the company and the QMS/QMS/QMS/QMS/QMSCI processes operate;
- Identification of the internal and external factors (non-exhaustive list) that may induce conditions, events with risk potential (see MQ-IAR-01- chapter 4 - Organizational context)

Note: The indicative sources of PR&O that can be expanded or limited, as appropriate depending on the specifics of the activity/process being analyzed are;

External factors:

- Nature of policy, legislation, regulations and standards, budget availability, etc;
- Shareholder structure, evolution of shareholder structure, analysis and decisions;

- Status and evolution of product markets;
- Implementation of standards, regulations, etc
- Suppliers, partners, collaborators: creditworthiness, reliability, financial status, etc;
- Natural events.

Internal factors:

- The economic and financial situation of IAR SA
- Contract requirements: technical performance, delivery terms and conditions, guarantees, etc.;
- Ensuring human resources with the necessary experience and training to carry out the activities/processes;
- Design and product realization capabilities;
- Equipment, machinery, equipment, tools, devices and condition of facilities to ensure the necessary utilities and their condition;
- High hazard activities requiring supervision and authorized personnel;
- Changing priorities within programs;
- Work Environment;
- Quality of products supplied;
- Communication with customers;
- Computer system, communication system.

5.2.2 Step 1: Hazard/R&O Identification

The purpose of Hazard/R&O identification is to inventory those problems that could lead to the non-achievement of objectives if they materialize (become a fact situation).

The identification of hazards/risks and opportunities consists in building the profile of the risks and opportunities of a process and can be performed at any level of the constituent activities of the process when problems are identified in relation to the specific objectives, product characteristics or project purpose.

The identification of PR&O is done by the designated officers / process owners / Safety Action Group (SAG), using various means and methodologies (used also in combination): brainstorming, checklists, questionnaires, lessons learned, expert interviews, radar method, WBS split structure, SWOT analysis, PFMEA method, Anybody-anytime, etc.

Hazard/risk identification is done by:

- Top-down approach: senior management identifies hazards/risks and opportunities within processes. Hazards/risks and opportunities can be collected and grouped in a short period of time. The activity may focus too much on the consequences and 'miss' essential information or details to control the uncertainty at its source.
- Bottom-up approach: each person involved in the process identifies hazards/risks or opportunities and passes this information up to higher management. This approach requires more effort for sorting and filtering, but will capture the details that are essential to effectively define the response strategy.

When identifying and defining hazards/risks and opportunities, some important rules should be kept in mind:

- R1 Hazard/risk is an uncertainty, not a certainty. Therefore, when a "hazard/risk" is identified, it should be analyzed whether it is not an already existing situation that has a negative impact on the objective. More often than not, the already existing situation is a materialized risk, i.e. one that has occurred. In this case it is no longer a risk but a difficult problem to be managed or an opportunity to be exploited.
- R2 Problems that are certain to occur should not be identified as hazards/risks. These are not hazards/risks, but certainties. The response to certainties is not a risk response plan (measures to control risks - measures to keep risks under control), but a plan built with certainty as a reference point.
- R3 Hazards/risks should not be defined by their impact on the objectives. The impact is not the hazard/risk, but the consequence of the materialization of risks on the achievement of objectives. Impact is an effect originating from the hazard/risk and not the hazard/risk itself.
- R4 Hazards/risks should not be defined by negating objectives. Such a definition is not appropriate either for impacts, let alone risks.
- R5 Hazards/risks that do not affect the objectives should not be identified. There are no hazards/risks absolutely, only hazards/risks related to the objectives. Hazard/risk identification is not an end in itself. The

purpose of hazard/risk identification is precisely to identify those problems that could lead to the non-achievement of the objectives if they materialize (become a fact situation).

R6 When identifying hazards/risks, the temptation to establish indirect causality should be eliminated as far as possible. Otherwise there is a danger of seeing risks everywhere.

R7 A hazard may have one or more associated risks.

The risk event is defined by formulations that must follow the format:

As a result of the [cause], the [risk/opportunity] may/may result in (or may not result in) the [effect].

There is a [risk] that from [cause] [effect] may happen.

Examples:

- As a result of [the customer does not know what they want or has not chosen the type of equipment], [the design data might not meet the customer's requirements], which would lead to [problems during the acceptance phase] ← Risk.
- As a result of the [product architecture not being defined], [existing (stock) components] may be used in the project which would lead to [reduced project development time and costs]. ← Opportunity.
- Exchange rate fluctuation between the time of signing the contract and the time of payment/collection - currency risk/opportunity: decrease/increase in profit due to exchange rate differences

Potential risk events (risks) can be from :

- Internal sources - within the company and controllable, manageable.
- External sources - external environment not under the control of the company's management

5.2.3. Step 2: Hazard/R&O Assessment

R&O assessment is the assessment of the probability of the risk/opportunity materializing and the level of consequences (impact) on the planned objectives, if the event/phenomenon and risk condition occurs/ materializes.

The combination of the estimated level of likelihood and the estimated level of impact constitutes the risk exposure [RE] on the basis of which the risk profile is analyzed.

The purpose of the hazard/risk assessment is to build a risk hierarchy of a process, to establish measures/plans to deal with the risks according to the level of risk tolerance and to delegate risk management responsibilities to appropriate decision-making levels.

Several rules should be kept in mind when assessing likelihood and impact:

- R1 The assessment should be based as far as possible on objective (impartial and independent) evidence;
- R2 The assessment should consider all those affected by the risk;
- R3 The assessment should distinguish between risk exposure and risk tolerance.

The risk/opportunity assessment consists of the following steps:

a. R&O probability assessment

Probability assessment is made using a 5 x5 scale set according to the degree of likelihood - from certainty (5) to uncertainty (1) - with quantitative level (%) correspondences for the probability that a risk/opportunity event or condition will materialize or be met.

Probability (quantitative level)	Probability degree		Probability definition	Symbol P
[80 % - 99 %]	5	Very high	The event is almost certain to happen.	FR
[60 % ... 80 %)	4	High	The event is sure to happen.	R
[40 % ... 60 %)	3	Middle	The event is likely to take place.	M
[20 % ... 40 %)	2	Low	The event is unlikely to be realized.	S
[1 % ... 20 %)	1	Very low	The event is unlikely to be realized.	FS

Table nr. 1 - Probability scale for assessment of R & O

Notation: probability in the range [20 % 40%) - 20% (closed range), 40% (open range)

b. Impact assessment on planned results or objectives

Qualitative assessment of the impact of risks should be translated into qualitative scales, reflecting the perceived importance in relation to planned outcomes or in relation to objectives, with quantitative (estimated or measurable) correspondences.

Degree	Impact	Examples that can be adopted to assess the impact on planned objectives, results	Symbol
5	Very high	Results are not achieved. Objectives not achieved / met Estimated costs higher than D thousand lei.	FR
4	High	Results are achieved with additional resource consumption. Objectives are achieved partially or with discrepancies Estimated costs between C - D thousand lei or labor more than Q hours.	R
3	Middle	Results are achieved in a controllable way Objectives are achieved with influencing parameters (cost, time, quality, etc) Estimated internal costs are between B and C thousand lei or N - R labor hours	M
2	Low	Results are obtained within tolerable limits. Targets are achieved with small deviations (within tolerable limits). Internal cost / estimated additional income between A and B thousand lei or M - N labor hours	S
1	Very low	Results are achieved without deviations. Objectives are achieved without constraints. Internal cost/ additional income less than A thousand lei or M labor hours	FS

Table no. 2 – Impact

Note: Thresholds A, B, M, N, can be values or % relative to budget values, estimated internal costs, profit, ventures, etc ... against which the degree of impact of the risk / opportunity is estimated or measured.

Quantitative assessment of R & O impact becomes useful for those events established with considerable impact using appropriate methods and models (expected value analyses, value margins, expertise and financial evaluations, etc.).

Quantitative assessment may be required for:

- Management decisions justified in business cases
- Financial statements and forecasts
- Dimensioning and tracking of possible costs or expenditure plans
- Risk transfer or risk sharing with third parties
- Probabilistic analyses.

Specifics about the opportunities:

- i. Opportunities are conditions, events or circumstances that make it possible to do positive things, for example:
 - Development of new products and services
 - Developing new markets and/or increasing market share
 - Improving the working environment
 - Productivity improvement
 - Improving operational efficiency (reducing resource use, reducing waste, etc.)
- ii. The qualitative assessment of the impact of the opportunities is translated into qualitative scales where the definitions are formulated in a positive sense in relation to the planned results or in relation to the objectives, with quantitative correspondences (estimated or measurable).
- iii. The impact for opportunities is defined by scales from 1 to 5 in which the definitions are expressed by positive statements, without references to deviations, discrepancies. It specifies the gain in performance, increased productivity, time reductions, savings, advantages, additional performance, process changes, etc.

Very high	5	I M P A C T	5	10	15	20	25
High	4		4	8	12	16	20
Middle	3		3	6	9	12	15
Low	2		2	4	6	8	10
Very low	1		1	2	3	4	5
			PROBABILITY				
			1	2	3	4	5
			Very low	low	Middle	High	Very high

Figure 1 - Matrix P x I and identification of R&O

P - the probability assigned to the risk, expressed numerically according to Table nr. 3 - Probability scale for assessment of R & O

I - the impact attributed to the risk, expressed numerically according to Table no. 4 – Impact

Notă: For certain processes (example: product design) it can be used the formula

$$R = P \times I \quad \text{where } I = \max (I_t, I_c, I_s)$$

in which

P - the probability assigned to the risk, expressed numerically according to table a (above)

I_t - the impact of the R&O event on the technical performance of the product

I_c - the impact of the R&O event on the estimated costs of the project

I_s - the impact of the R&O event on the realization plan / schedule

Specifics about the opportunities:

- The evaluation of the opportunity turns into the evaluation of the chances of improvement.
- The method of calculation is identical to that applicable in the case of risk.
- The matrix used to evaluate the opportunity is that of mirror risk.

The R&O evaluation represents the activity carried out by the process owner through which the consequences on the planned results are determined and which are felt by the society, under the conditions in which the R&O events happen. The documentation is done on the R/O sheet, see appendix B.

d. R&O ranking

The level of R&O (calculated) determines the ranking of risks and the way in which R&O is treated (see points 5.4 and 5.5): the level of urgency in dealing with risks, the urgency of realizing opportunities, identifying new risks from opportunities, etc.

The level of R&O for risk events [risk - / risk +] is represented in matrix format with qualitative scales expressed numerically and the risk (either the - or the +) is located according to its coordinates (I; P).

The ranking according to R&O is completed with the matrix representation of R&O (qualitative form) and the establishment of areas of interest regarding the R&O treatment strategy - areas suggested by color codes - green - yellow - red respectively shades of blue.

Building the R&O matrix

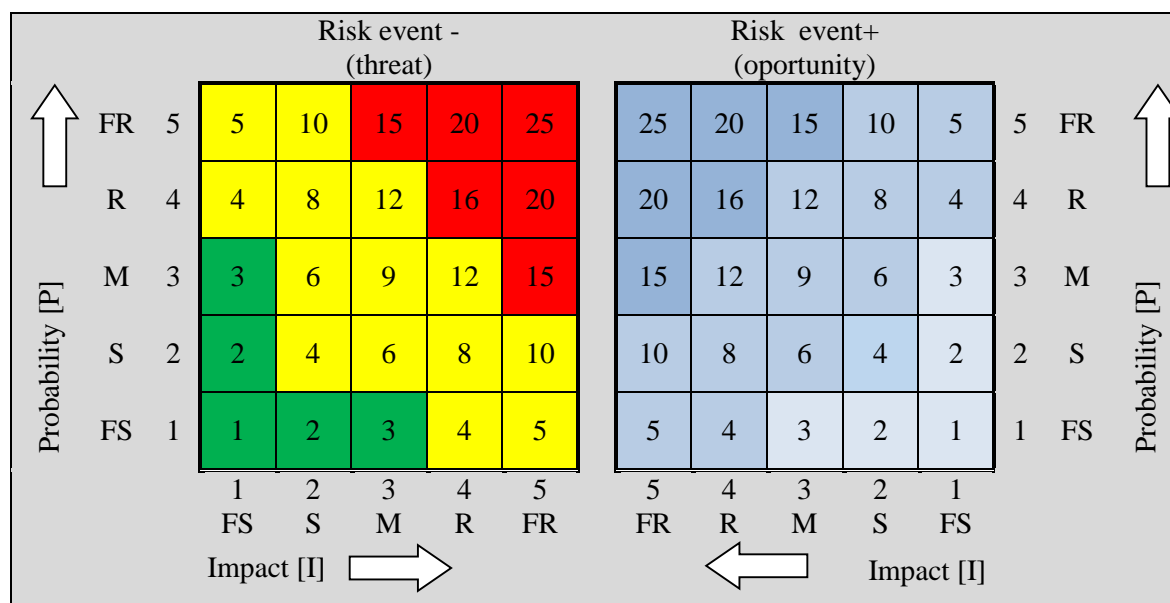
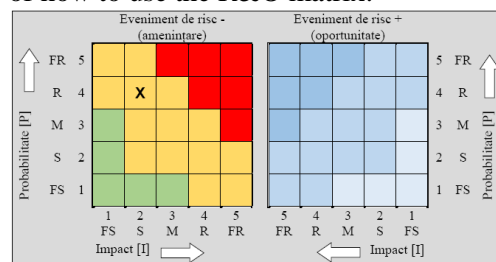


Figure 2 - Matrix R&O

For the risks in the green zone, it can be established that they are tolerated (accepted). For risks in the yellow zone, risk control measures (mitigation of impact and or probability) are required. the risks in the red zone are the risks that cannot be crossed, critical.

Documentation is done on the R/O sheet, see appendix B. example of how to use the R&O matrix:

The event is a high probability (R) and low impact (S) risk.



The event is low probability (S) and high impact (R) opportunity.

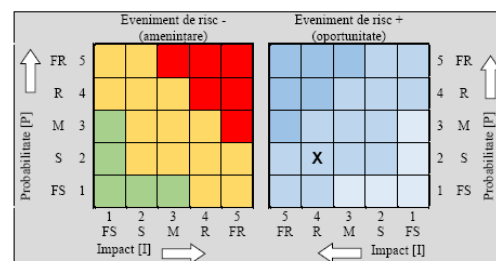


Figure 3 – Example for the layout of R&O on the matrix R&O

If in the management of organizational or operational dangers/risks we assessed generically from the point of view of probability/impact (matrix fig. 3), in terms of safety they will be treated punctually from the point of view of probability/severity (fig. 5).

		Risc					
Probabilitate [P]	FR	5	5	10	15	20	25
	R	4	4	8	12	16	20
	M	3	3	6	9	12	15
	S	2	2	4	6	8	10
	FS	1	1	2	3	4	5
			1	2	3	4	5
			FS	S	M	R	FR
			Severitate[S]				

Figure 5

The steps of the hazard/risk management process in terms of the safety of aeronautical activities are detailed in fig. 6.

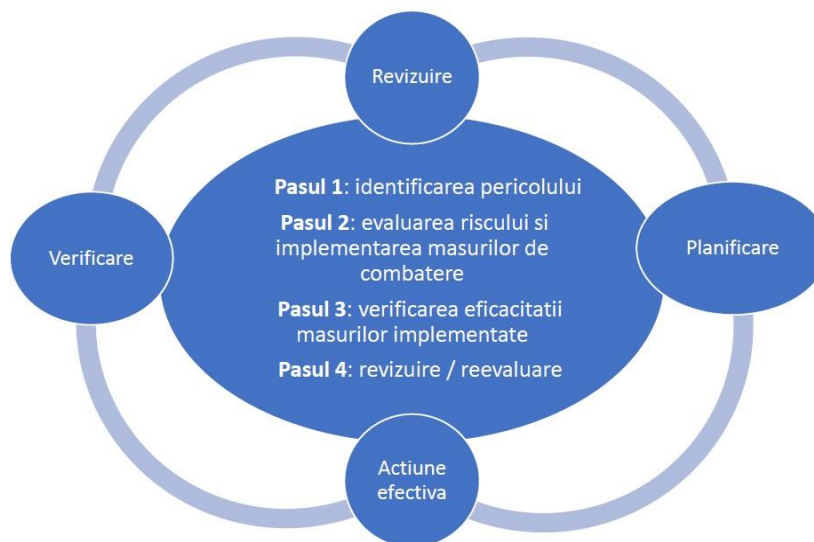


Figure 6

5.2.4 Step 3: Hazard/R&O Treatment

The totality of identified R&Os, for which the level was established following the assessment, is placed on an R&O matrix to obtain an intuitive map of the disposition of these risks & opportunities on each area; thus the R&O profile for a SMQ process or for an element in the applicable field is obtained.

Simultaneously with this disposition (R&O profile) partial sums can be made on each exposure level (total number of Id- / Id+ for each exposure level) - which constitutes a reporting parameter.

The applicable R&O management strategy is adapted to the risk level, the tolerance limit and is determined by the acceptability/assumability limit of some risks. Each risk or opportunity is assigned a response depending on its profile and level.

The types of responses to applicable R&Os are presented in points 5.4 and 5.5.
The documentation is done on the R/O sheet, see annex B.

Example:

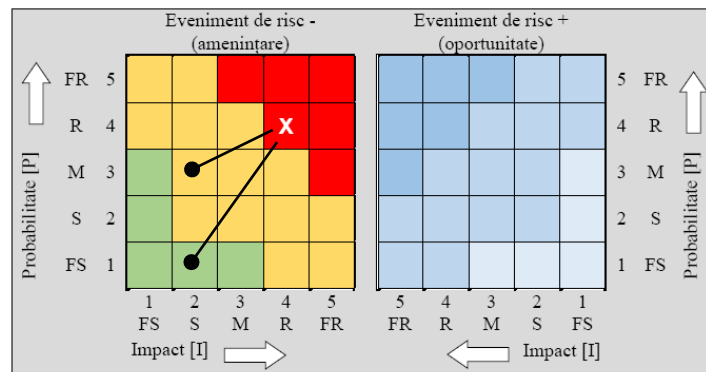


Figure 7 – Example how to use R&O matrix for a risk and the effects of its treatment

- Risk id. 5 in RR&O, respectively R/O sheet id. 5 is placed in the high risk area - red
 - R&O management strategy: risks that are located in the red area with the highest impact/severity and that deviate the most from risk tolerance, require, as a priority, the initiation of control measures (with immediate corrective actions), which means that these risks cannot be ignored.
- Response type: Mitigation - the activity cannot continue as it is. Risk reduction measures must be implemented quickly, in order to operate at least at a tolerable risk level.

Mitigation measures:

measure 1 ... effect of moving risk to the yellow area - residual risk

measure 2 ... effect of moving risk to the green area - residual risk

5.2.5 Step 4: Hazard/R&O Control

Risks and opportunities are centralized in the risk and opportunity register (RR&O), see Appendix A.

RR&O at top management level centralizes R&O and appropriate synthetic data for information and decisions.

Risks and opportunities must be controlled by: establishing applicable actions/measures, identifying triggers, identifying the time horizon when the risk may occur, R&O status, R&O domain/source, deadlines for implementing actions/measures, allocated resources, residual risk assessment, responsibilities, communication/reporting deadlines, etc.

Risk management controls must ensure an acceptable level of risks, so that they are within the accepted tolerance limit. R&O must be managed at the process owner level / an appropriate level depending on the procedure implementation plan in each direction / department, with escalation and reporting, when necessary, to top management. The working document at the process owner level is the PR/O sheet, see Annex B.

5.2.6 Step 5: Monitoring Hazards/Risks/Opportunities by processes

Hazard/risk monitoring is the type of risk response characterized by accepting the risk with the obligation to constantly monitor it, in particular, to monitor the probability of the risk occurring.

Monitoring consists of collecting data for R&O, ordering, comparing with planned R&O control data and triggering information/communication actions when discrepancies/deviations from planned data are identified or whenever necessary, in order to make decisions that will lead to risk mitigation/elimination.

Monitoring is a recommended strategy for risks with high impact but low probability of occurrence.

The working document is the PR/O sheet, see Annex B.

5.2.7 Step 6: Hazard/Risk/Opportunity Reporting, Communication, Status Review

Reporting and communication consists of periodically summarizing and documenting the elements of MPR&O applied to a SMQ/SMS/SCIM process, activities in the company, - which is achieved by entering the collected R&O control data into RPR&O, PR/O sheets - and making these elaborated data available to the people involved in MPR&O for analysis and establishing subsequent actions and/or decision-making.

Elements that are reported in R&O management for a process can be:

- Report / summary list of R&O per process resulting from RPR&O
- Total risks, total opportunities
- Total risks: active, assessed, in assessment, withdrawn / eliminated, closed, in supervision, in analysis, etc.
- Total risks: high level, middle level, low level
- Total residual risks: active, assessed, in assessment, withdrawn / eliminated, closed, etc.
- Total risks with mitigation plan
- Total risks with contingency plan
- Total risks by category: technical, cost, program, commercial, logistics, human factor, facilities, legislative, supplier, subcontractor, etc.
- Logbook of notes related to risks - data / lessons learned.

The analysis of reported data (from RR&O, R/O sheets) and the decisions taken determine the updating (revision) of the R&O applicable measure plan or the establishment of new actions to be carried out.

Working documents: RR&O, R/O sheet (annexes A and B) and non-formalized summary report.

5.3. Risk tolerance/opportunity chance

Risk (as a combination of probability and impact), determined by the assessment methods shown above, only makes sense in relation to the level of risk tolerance. When risk exposure is compared with risk tolerance, the extent of risk control measures to be taken becomes evident. In other words, it is not the absolute value of risk exposure that is important, but the deviation of risk exposure from risk tolerance.

What is essential is whether the risk is perceived as tolerable or not.

Establishing a risk tolerance limit is a way of balancing the “cost” of risk control with the “cost” (financial and/or other) of exposure, should they become a reality.

Establishing a risk tolerance limit is a major act of managerial responsibility, because it establishes the risk exposure that is assumed, in correlation with the costs, also assumed, of risk control measures.

The intensity of control measures is directly proportional to the deviation of risk exposure from the established tolerance limit. IAR SA has implemented the practice of using colors in the visualization of the risk profile.

All risks that have a level above the accepted risk tolerance limit (drawn with a thick line) require control measures through which these risks become residual.

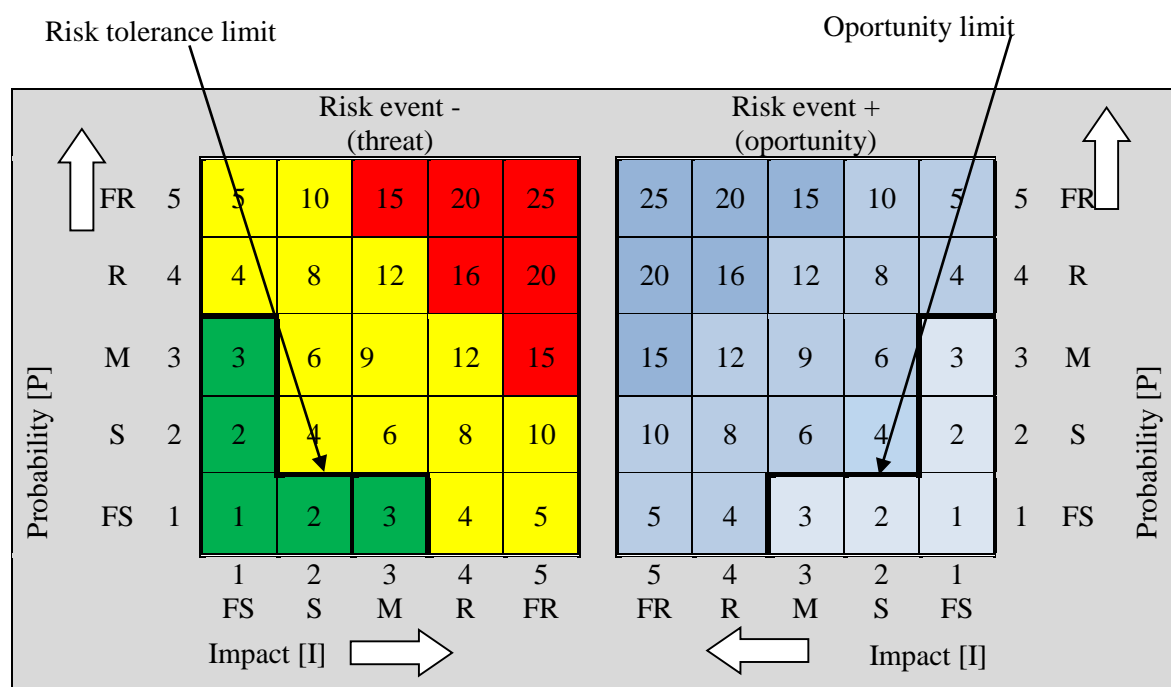


Figure 8 – Global matrix of R&O and tolerance limits

The risk profile is interpreted as follows:	The opportunity profile is interpreted as follows:
<p>■ High (intolerable, critic) - risks that are in the red area with the highest risk exposure and that deviate the most from risk tolerance, require, as a priority, the initiation of control measures (with immediate corrective actions), which means that these risks cannot be ignored.</p>	<p>■ High - high chance, the opportunity is likely to occur or recur frequently.</p>
<p>■ Middle (reduced tolerance) - risks in the yellow zone (attention zone) have an exposure that exceeds the risk tolerance limit, but the deviation is moderate. Risks can be addressed through control or monitoring measures .</p>	<p>■ Middle - moderate chance, the opportunity is likely to materialize, to recur occasionally, or will only materialize in certain contexts.</p>
<p>■ Low (tolerable, acceptable) - risks that are located in the green area have an exposure below the risk tolerance limit and this area generally contains the risks assumed .</p>	<p>■ Low - low chance of materialization, the opportunity will definitely not materialize .</p>

5.4. Types of risk response – Control of risks, hazards/effects

After the risks, hazards/effects have been identified and assessed and after the tolerance limit within which IAR SA is willing, at a given time, to assume risks has been defined, it is necessary to establish the type of risk response for each risk.

In risk management, several alternative strategies have been identified that can be adopted in response to risk:

a. Risk acceptance (tolerance)

Acceptance applies when risks identified at the process/compartment level are assumed by decision-makers or when no other type of risk response is possible.

- i. Acceptance which consists of not taking risk control measures and is appropriate for inherent risks whose exposure is lower than the risk tolerance limit (see Figure).
Ex. response: Acceptable risk level. No further analysis is required. Improvements can be made if not reflected in production costs. Time tracking is required to ensure that the exposure level has not changed.
- ii. Acceptance of risks with permanent supervision which consists of accepting the risk on condition that it is maintained under permanent supervision. The parameter supervised is mainly probability, since the monitoring strategy is applied to risks with high impact but low probability of occurrence. Essentially, the surveillance strategy involves postponing the taking of control measures until the moment when circumstances determine an increase in the probability of occurrence of the risks subject to this treatment.
Ex. answer: Tolerable level of risk. The reduction of severity is sought, but the costs of prevention should be carefully measured and limited. Measures to reduce the level of risk must be implemented within defined deadlines. There must be monitoring and control procedures to ensure that the level of exposure does not change.

a. Risk Reduction/Mitigation

Involves taking control measures for inherent risks that have an exposure greater than the tolerance limit. This is the most common approach for most of the risks faced by IAR SA. The risk mitigation option consists in the fact that while the activities that generate risks are carried out, measures will be taken (implement control tools) to keep the risks within acceptable (tolerable) limits.

Example of answer: Unacceptable risk level. The activity cannot continue as it is. Risk mitigation measures must be implemented quickly, in order to operate at at least a tolerable risk level.

b. Risk transfer (outsourcing)

This strategy involves entrusting the MR&O activities applicable to the risk to a third party capable of resolving such risks, based on a contract (insurance contracts, security and protection contracts, maintenance contracts, service contracts). Risk outsourcing aims to reduce risk exposure and better manage the transferred risk.

c. Risk transfer (outsourcing)

This strategy involves entrusting the MR&O activities applicable to the risk to a third party capable of resolving such risks, based on a contract (insurance contracts, security and protection contracts, maintenance contracts, service contracts). Risk outsourcing aims to reduce risk exposure and better manage the transferred risk.

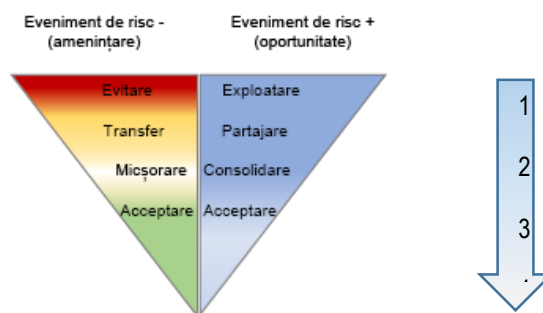


Figure 9 - Steps to treat R&O

5.5 Opportunity handling actions

For opportunity management, alternative strategies are identified (Figure) that can be adopted in response:

a. Acceptance

The identified opportunity represents insufficient profitability and does not justify the investment / allocation of resources. The condition or opportunity can be placed on a list for surveillance / monitoring.

b. Consolidation

Measures to enhance or strengthen over time the condition or event that led to the opportunity.

c. Sharing

The application of measures that attempt to develop joint working teams or various partnerships to increase the probability of the opportunity.

d. Exploitation

The measures applied to increase the identified benefits by increasing the impact and increasing the probability or both. Actions can be achieved by allocating additional resources (financial, human, etc.).

6. RESPONSABILITIES

Process owners are mentioned in MQ-IAR-01 - "Process Sheet", and risk managers at department/directorate level (for SCIM) are appointed by decisions of the General Manager.

Process owners and risk managers at department/division level are responsible for:

- identifying hazards/effects and assessing risks/opportunities,
- assessing risks and opportunities,
- establishing risk tolerance/opportunity chance and risk response (risk control),
- establishing risk responses (risk control) of opportunity treatment actions,
- drawing up the R/O sheet,
- monitoring risks and opportunities, hazards/effects through the risk and opportunity register containing information on their management,
- reporting the status of hazards/risks/opportunities to the company management.

If hazards/risks/opportunities with high impact and/or probability are identified, analysis and approval of the measures proposed by the company management is requested, the RR&O is updated, followed by information and compliance with the R&O treatment measures.

From the point of view of managing safety hazards/risks, they are periodically analyzed in the Safety Action Group (SAG) as a proactive measure or whenever needed (reactive), according to the Safety Management System Manual and are submitted to the attention of management (Safety Review Board) for acceptance/application of mitigation and/or monitoring measures.

7. RECORDS

The R&O register is the working tool for process owners, respectively for risk managers at department/directorate level, it contains the R/O, RR&O sheets and usage instructions in a .xlsx /.xls format file, available on the internal network, accessible for completion, updating, consultation, processing for reporting.

The RR&O review is done by identifying the edition and revision (inside the file).

Archiving is done electronically in the company's internal network, in pdf file formats, according to IOF 0-002.
The data in the R&O register constitutes input data (trigger) for the event register. If new input data appears in the event register, then this necessarily leads to the reassessment of the risks and their registration as new data in the R&O register for monitoring, until mitigation and acceptance by the Responsible Manager.

8. ANNEXIS

Annex A – Hazard/Risk and Opportunity Register (HRR&O)

Annex B – Hazard/R/O Sheet

Management of risks and opportunities in the processes of the management system

Hazards/Risks and Opportunities Register Form (RR&O)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1				Registrul riscurilor si oportunitatilor												
2				Proces:	Cod:											
3				Societatea IAR SA	Data:											
4	Identificarea R&O											Evaluare initiala				
	Id	Data	ROR/RO OP/RO RS/RO PS	Titlu	Definire completa	Cauza	<i>Pericol</i> / Efect	Trigger	Proces	Proprietar	P	I	ER	Raspuns	Plan masuri	
5																
6	RO_ COM P_NN		ROP													
7																
8																
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Management of risks and opportunities in the processes of the management system

Hazard Data Sheet Form R/O

16		
17	Proces	
18	Proprietar	
19	Evaluarea R / O initiala	
20	P	
21	I	
22	ER = P x I	0
23	Tratarea R&O	
24	Raspuns	
25	Plan masuri	
26		
27		
28		
29		
30		
31	Plan contingenta	
32		
33		
34		
35		
36		
37	Proprietar	
38	Termen	
39	Corectie	
40	Evaluarea R / O rezidual	
41	P	
42	I	
43	ER = P x I	0
44	Masura	
45		
46		
47	Responsabil	
48	Termen	
49	Status final	

