



Road Safety Index

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1. SUPPLY/VALUE CHAIN ANALYSIS



GUIDANCE FOR USE - SUPPLY/VALUE CHAIN ANALYSIS

The supply/value chain analysis supports the organization to understand and define its sphere of influence, i.e. the activities, transports, travel, products and/or services that impact road safety.

It's important to define an approach for how the total supply and demand network can be defined and interpreted for each organization going for a road safety measuring process.

When that network is defined, there is a quite distinct limitation on actors and activities to understand the value chain from a road safety point of view, as we are focusing strictly on road transport (including walking) on common roads and goods handling areas with public access.

Such an approach will be an important enabler for getting started with the RS Index measuring.

However, even if we can find clear criteria for supply chain definitions, we cannot avoid the fact that the value chain interpretations might be quite various over different businesses. The sphere of influence has to be identified, in order to understand the added value, risk exposure or impact of the actors in the supply chain.

Some value chains have a clear end when the product or service reaches the end and gets consumed more or less directly. For example, that goes for the FMCG (Fast Moving Consumer Goods) products.

On the other hand, some businesses have a significant share of the sphere of influence after the end customer reception, also with years of significant road safety exposure. One obvious representative in this category is the car manufacturing industry. However, the end customer use of this traffic safety related product will not be regarded as a part of this organization's supply chain but will be in focus for the product-related part of the RSI index rating.

To be able to handle both various conditions and vast supply chain networks, it might be necessary to make clear limitations and also some simplifications in order to make the first step. The different decisions and considerations mentioned in the manual, can be concretized into a 5 step procedure, described below.

The purpose of the table below is to clarify different steps and decisions to be taken in order to simplify the value chain description, in terms of scope definitions and assumptions.

Activity	Description
1. General scope definition. Specify what part of the total business to start with.	In global organizations, it can be suitable to pick one country, region, production site, distribution center or some other well-defined part of the total business, with the traffic understanding within reach.
2. Explain the sphere of influence for the chosen part of the business.	Even the sub-business might have a considerable sphere of influence regarding responsibility and direct or indirect impact on the actors throughout the total value chain, such as the number of tiers in the upstream supplier network if end-users should be included, etc. The pinpointed categories should be included as headlines in the VC description tables for upstream, within the company, and downstream traffic volume.
3. Local scope definition: Specify what part of chosen business' sphere of influence that should be included in the first rating.	Kilometers are the most preferable way to describe traffic volume, but other units could also work, such as the number of shipments or tons. As the kilometer information sometimes can be hard to find in the statistics, the number of shipments multiplied by the assumed average kilometers per shipment can be used to calculate the mileage.
4. Decide how to make the quantification of traffic volume.	Now the table's headlines are filled in. This limitation clarifies that you for example will quantify only 1st tier suppliers in the upstream flows, and perhaps only the 5 most dominating. The categories not included will have "zero" in the quantified traffic volume, together with an assumption of the size of the traffic not included in the
5. Make the quantification with chosen method per traffic category and get the result.	The traffic volume for each flow is quantified and compared with the assumed total flow. Mentioned but excluded flow will have zero compared with the assumed total flow. The result is calculated with total traffic volume for the first rating, including the % coverage of the total sphere of influence for the chosen part of the organization Market representation At the bottom of the VC specification template, there is a table for each type (upstream, within the company, downstream) of traffic, to specify the traffic volume for low/middle/high-income countries. The total shall correspond to the total identified traffic volume for the rating. The share for each country category is calculated in the template.

SPHERE OF INFLUENCE DISCUSSION IN DIFFERENT BUSINESSES

Examples

Following examples might be useful to test how the criteria could be followed and interpreted in some cases. Each case is followed by an example of how the value chain description table could be filled in, including relevant headlines clearly quantified regarding what to include in the rating and not.

Service provider of technical installations

In this example, our company offers installations and aftermarket service and maintenance of physical products, sourced from a multi-tier supplier structure and manufactured in its own facilities. Our company acts as a manufacturing industrial company from an upstream supply chain point of view. The activities within the organization, such as transfers between its own warehouses and internal education and management, are presented in the “within company” category.

In the downstream demand chain, we find wholesalers and consultants, providing offices as well as private end consumers with installations. The equipment installed needs regular inspections, repair and upgrading.

As the installed base gets bigger, the aftermarket service and repair would represent the majority of the demand chain. The technicians, driving the service cars, will be clear actors in the value chain, adding value through the services provided.

In this example, we will probably recommend the end customer to be excluded, as being quite irrelevant in volume in comparison with the total demand chain activities. These kinds of activities will also be extremely hard to catch in the road safety measuring for this company.

As we can see in the table, 73 % of the selected organization is covered. The upstream traffic has representation from all three country categories, but both the within company and the downstream traffic is concentrated in the high-income countries.

Upstream supply chain RSI representation			
Upstream road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
1st tier central warehouse	110 000	200 000	55
2nd tier central warehouse	0	40 000	0
1st tier local offices	35 000	50 000	70
Total	145 000	290 000	50

Within company supply chain RSI representation			
Within company road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Internal leadership	12 000	12 000	100
Internal education	20 000	20 000	100
Fulfillment from central WH	70 000	70 000	100
Total	102 000	102 000	100

Downstream supply chain RSI representation			
Downstream road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Sales visits	80 000	90 000	89
Client installations/services	45 000	50 000	90
Client visiting local offices	50 000	50 000	100
Urgent repair	60 000	80 000	75
Total	235 000	270 000	87

Total rated share [%] of selected value chain
73

Market RSI representation of total exposure upstream			
Market category	Traffic volume	Rating Share [%]	Market Share [%]
High income countries	90 000	62	62
Mid income countries	55 000	38	38
Low income countries	0	0	0
Total	145 000	100	100

Market RSI representation of total exposure within company			
Market category	Traffic volume	Rating Share [%]	Market Share [%]
High income countries	102 000	100	100
Mid income countries	0	0	0
Low income countries	0	0	0
Total	102 000	100	100

Market RSI representation of total exposure downstream			
Market category	Traffic volume	Rating Share [%]	Market Share [%]
High income countries	235 000	100	100
Mid income countries	0	0	0
Low income countries	0	0	0
Total	235 000	100	100

Total market representation	
Market category	Market Share [%]
High income countries	89
Mid income countries	11
Low income countries	0
Total	100

INFRASTRUCTURE: ROAD REPAIR AND CONSTRUCTION COMPANY

Our company is in the road infrastructure business, both in new greenfield projects and repair of roads in the present public road network. As we can see in the filled-in table, there is representation from all three country categories, which means that this is a company with global attendance.

The supply chain can be divided into two categories:

- Supply of machines and equipment to warehouses and workshops, to be used in upcoming projects.
- Supply of machines, equipment and also workforce to different locations, in order to execute the infrastructure running services.

Note that even the personal transport, with own private cars, mopeds or bicycles in order to get to the location of the project, should be included in the supply chain value-added activities.

What about 3rd party citizens or end consumers, using the road and happens to pass the project location under their private journey? In this case, if we focus on the limited part of the road directly connected to the project, the activity to use the road passing the ongoing project should be regarded as value-added activity in the sphere of influence.

Filled in the table below. 75% of the selected business is covered in the rating.

Upstream supply chain RSI representation			
Upstream road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Top 5 1st tiers, running business	300 000	300 000	100
Top 5 1st tiers, infra projects	200 000	200 000	100
Other 1st, running business	0	80 000	0
Other 1st, infra projects	0	200 000	0
2nd tier tot	0	100 000	0
Total	500 000	880 000	57

Within company supply chain RSI representation			
Within company road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Project leadership	20 000	20 000	100
Own workforce to site	400 000	400 000	100
Int planning & education	35 000	35 000	100
Other internal intercation	0	150 000	0
Fulfillment of local stocks	350 000	350 000	100
Total	805 000	955 000	84

Downstream supply chain RSI representation			
Downstream road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Third party traffic at site	110 000	110 000	100
External education	50 000	50 000	100
Repair & maintenance	230 000	400 000	58
Spare parts supply	350 000	400 000	88
Project mtrl supply	375 000	450 000	83
Total	1 115	1 410	79

Total rated share [%] of selected value chain
75

Market RSI representation of total exposure upstream			
Market category	Traffic volume		Market Share [%]
High income countries	225 000		45
Mid income countries	150 000		30
Low income countries	125 000		25
Total exposure all markets	500 000		100

Market RSI representation of total exposure within company			
Market category	Traffic volume		Market Share [%]
High income countries	600 000		75
Mid income countries	150 000		19
Low income countries	55 000		7
Total exposure all markets	805 000		100

Market RSI representation of total exposure downstream			
Market category	Traffic volume		Market Share [%]
High income countries	615 000		55
Mid income countries	350 000		31
Low income countries	150 000		13
Total exposure all markets	1 115		100

Total market representation	
Market category	Market Share [%]
High income countries	60
Mid income countries	27
Low income countries	14
Total	100

THE CAR MANUFACTURING COMPANY

For a global car manufacturer with a number of production facilities all over the world, the supply chain is vast and has to be clearly defined and also limited in order to know where to start measuring. In the example below there is a limitation on production sites in France. However, we can see that there are significant international traffic exchange, as there is representation from all three income categories for involved countries.

If the upstream supply chain is overwhelming in size and complexity, it gets even more interesting downstream, approaching the distribution, the end customer sales, the aftermarket concerning service, repair and spare parts distribution and finally the end customer use of the product.

Even the within company traffic is relevant to quantify, due to traffic between sites, internal stock transfers and management exchange.

From a value chain description point of view, we don't include the private end customer use of the cars. On the other hand, this product use is a significant part of the RSI rating that focuses the traffic safety related products and services.

In the table, we can see that the downstream part of the value chain is considerable, due to all aftermarket activities, even if we exclude the end- user traffic.

Upstream supply chain RSI representation Production sites in France			
Upstream road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Prio 1st tier to production	400 000	400 000	100
Other 1st tier	150 000	500 000	30
Prio 2nd tier to production	250 000	250 000	100
Other 2nd tier	0	300 000	0
Indirect fulfillment	0	50 000	0
Total	800 000	1 500	53

Within company supply chain RSI representation Production sites in France			
Within company road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Between prod sites	280 000	280 000	100
Prod site to own warehouse	80 000	80 000	100
Warehouse transfers	150 000	150 000	100
Management exchange	50 000	50 000	100
Other internal	350 000	350 000	0
Total	560 000	660 000	85

Downstream supply chain RSI representation Production sites in France			
Downstream road transports categories	Rating traffic volume	Estimated total traffic volume	Rating Share [%]
Distribution to harbor	600 000	600 000	100
Distribution to wholesalers	450 000	450 000	100
After market service	0	10 000	0
Spare parts distribution	200 000	200 000	100
Travels for marketing	0	50 000	0
Travels for education	0	50 000	0
Total	1 250	1 360	92

Total rated share [%] of selected value chain
74

Market RSI representation of total exposure upstream			
Market category	Traffic volume		Market Share [%]
High income countries	450 000		56
Mid income countries	175 000		22
Low income countries	175 000		22
Total exposure all markets	800 000		100

Market RSI representation of total exposure within company			
Market category	Traffic volume		Market Share [%]
High income countries	500 000		89
Mid income countries	60 000		11
Low income countries	0		0
Total exposure all markets	560 000		100

Market RSI representation of total exposure within company			
Market category	Traffic volume		Market Share [%]
High income countries	900 000		72
Mid income countries	350 000		28
Low income countries	0		0
Total exposure all markets	1 250		100

Total market representation	
Market category	Market Share [%]
High income countries	71
Mid income countries	22
Low income countries	7
All markets	100

2. COMMITMENTS, SUPPLY CHAIN



GUIDANCE FOR USE - COMMITMENTS, SUPPLY CHAIN

All organizations have a generic supply chain, and this commitment section refers solely to the supply chain of the organization.

The scoring of the organization's commitment has four main headings; Top management engagement, Road safety targets, Follow laws and regulations and finally Safety performance factors. The section on Safety performance factors has four subsections on speed, vehicles, fitness to drive and use of protective gear. All of them are mandatory to value.

A fifth, voluntary, safety performance factor, could be added by the organization.

Top management engagement, policy, (guidance supply chain), table S-C1

The requirement for maximum scoring is formulated, The top management has taken a clear role in managing and following traffic safety in the entire supply chain, to be open and transparent and apply procedures and actions that are evidence-based (table S-C1).

The top management could be either the Board of the organization or the CEO. The statements about the engagement must be available to the owners, employed, contracted and other involved parties as well as the general public. There must be a statement about the engagement, and how responsibility, resources and actions will be managed. A statement about what actions will be based on is necessary, either in terms of legitimate standards/guidelines or explained in scientific terms and context.

The commitment can be given as a general statement about safety if the statement does not exclude any part of the supply chain or any category in the entire supply chain. A statement referring to Occupational Health and Safety would therefore not be sufficient for maximum scoring as it would exclude third parties.

Fewer points will be given if the organization has no commitment currently, but announce they will have a commitment with the content outlined above, in the near future. Up to a year would be considered to be the "near future" in this case. If the organization has no commitment from the top management but has delegated the responsibility for traffic safety to parts of the organization, with the same content as outlined above, the scoring will be lower.

Road safety targets, (guidance supply chain), table S-C2

The requirement for scoring is formulated; The organization

has a long-term as well as a time set target for its safety footprint. Safety has an explicit and communicated priority over other aspects like timeliness of transport, economy, etc.

It is expected for the maximum scoring that both a long and a time set target for the safety footprint are expressed by the organization. Long-term would not necessarily have a specific year for its fulfillment but should express the target in numerical terms. It is expected that the footprint should be eliminated in the long run. The organization would have to relate traffic safety to other sustainability issues and targets and put the safety on the same level as other 2030 agenda issues or similar frameworks.

The shorter timeframe would be the target that the organization both internally as well as from the outside would be measured against. A reasonable timeframe would be up to 15 years ahead from when the target is set.

To avoid any misunderstanding about the role of traffic safety among employed or contracted organizations/stakeholders, the organization must be able to express that there are no competing demands for safety within the supply chain. Contracts with suppliers and transport services might operate under time pressure for delivery at a certain time, but it must be clear and communicated to all involved that such pressure cannot conflict with safety. The organization would have to show that it has no such contracts with suppliers, i.e. that late arrivals related to road transport, etc, are punished in any form. On the contrary, timeliness of transports, and the way timeliness should be handled must be explicitly agreed and endorsed by the contracting organizations.

Lower scoring would be applied if the organization does not have any time set targets and/or the organization has not expressed the hierarchy of road safety.

Follow laws and regulations, (guidance supply chain), table S-C3

The requirement for maximum scoring is formulated; The organization states that following relevant road rules, standards and OHS legislation in relation to transport is a minimum level. Non-compliance with this statement must have a clear and communicated sequence of action.

There are several standards and rules, including legislation, that require that an employer apply certain procedures, actions and reporting in relation to employed. Such standards, like ISO 45001, and legislation in many jurisdictions (the EU, the US and many others) point out that the employer and also contracted organizations should apply a systematic approach to workplace safety. Road transport with employed involved both as drivers and passengers would fall under the same category as those working at a certain site or location. As there is an obvious risk that an organization would not see road traffic in the same way as more traditional workplace safety (i.e. for a site or location) and see road rules as an issue for the driver even if it is an employed, there must be a clear statement from the organization that road traffic is seen in

the same way as other workplace safety issues and take appropriate responsibility. It must also be stated which standards the organization applies, and what rules and legislations that form the minimum standard. As there is a varying set of rules across jurisdictions where some parts of the world have a less rigid set of rules, it is essential that the organization states what is relevant.

There must also be a statement that following standards, rules and legislation in road traffic is a minimum level of responsibility and that following these rules is an issue for the organization rather than only seeing the employed as responsible. The details of these rules that should apply will be found in the section about safety performance factors. What is also required is that if non-compliance with rules are detected, systematically, there must be a sequence of action from the organization. Documentation about such non-compliance must be shown by the organization, both the sequence of action as well as how often it has been applied. If an organization claims that there is no such non-compliance occurring, there must be strong evidence for this statement, otherwise, the requirement would not be seen as fulfilled. An example of such evidence would be the use of technical quality assurance for vehicles used, that would eliminate non-compliance (alcohol interlock, geofencing of speed, seat belt reminders etc).

The non-compliance requirement would apply to not only employed but also contracted parties. The scoring would be reduced if the requirement is only applied to the own organizations and those employed, but if an employed is a passenger of a transport service or alike, the requirement would have to be fulfilled in any case.

The requirements and actions of non-compliance must be communicated to all relevant parties.

Safety Performance Factors, (guidance supply chain) S-C4 to C7

In this section, all the safety performance factors are included. The organization must relate to all of them in order to have any scores applied, even if the result of their answer is zero points.

The first Safety performance factor (table S-C4) to relate is speed and speeding. Speed is a fundamental factor, strongly linked to the injury outcome of a road crash. Even very small alterations in speed have a large impact on in particular serious injury outcome. A 5% increase in speed leads to an approximately 25% increase in the risk of death (Elvik).

Therefore, it is recommended by the Academic Expert group for the 3rd Ministerial Conference on road safety (2020) to apply no-tolerance speed management. This is picked up in the requirement for the speed safety performance factor; The organization has policies stating that speed limits must be followed and that it applies a zero-tolerance to speeding. Where relevant, the organization has information about speed limits available when driving.

In the requirement, maximum scoring would explicitly imply that the organization has full control of the speed limit and speed behavior of its transports. In combination with the requirement on following all road rules and reacting to non-compliance, the organization would be expected to have a well-functioning speed management, possibly including quality assurance level of its behavior. It would also be expected that the speed policy and regime would be communicated to all relevant stakeholders and not only within its own organization.

The scoring is reduced if there is no tolerance statement, and/or speed limits are not available for drivers in/on the vehicle when active.

Note that speed limits could vary not only with location but also for different kinds of vehicles. The same regime would be expected in any case of the set speed limit and could be complemented with internal speed limits for the organization, when relevant. The technical support system can have a key role in managing speed.

The second safety performance factor (S-C5) is vehicle choice and safety standards: The requirement for maximum scoring is; The organization states that only vehicles with the highest available safety performance will be used for all transports. The definition of the highest available safety performance is available and communicated.

The vehicle requirement relates to the large importance of vehicle choices. The safety differences between vehicle models are significant. No doubt, vehicle types and specifications should be related to the purpose of the vehicles, but the requirement implies that given the purpose of the road transport, the safest vehicle available should be picked. As safety, defined

by the FIA RS Index, includes not only the driver or employed by the organization or contracted employed, but also third parties, the vehicle choice goes beyond the self-protection of the vehicle and includes also partner protection (protection of occupants of other vehicles and road users). Regarding vehicle types, this could possibly have an important role.

Given the vehicle type, the safety standard varies considerably. For passenger cars, the risk of death to an occupant inside the car could vary up to 10 times, for different car models in a similar set of crashes. With the gradual introduction of more safety technology, the differences between different cars seem to stay, and the choice of cars is therefore essential.

For passenger cars, there are standards and rating systems available that should make choices of the safest cars possible across all markets and jurisdictions. The standard or rating system used for the selection of cars must be presented by the organization. On the European markets, Euro NCAP 5 stars cars (with test results valid at the time of choice) would be expected as the natural way to describe the requirements of the organization. For the US market, US-NCAP and/or IIHS rating with maximum scoring would be sufficient. For many other markets, variants of Euro

NCAP and IIHS would exist and would be sufficient, but for markets with no real national rating, the task to choose the safest possible would be more challenging. It would be expected that the organization gains the necessary knowledge to still make sure it picks the best available cars.

For heavy goods vehicles, for delivery vehicles, etc, there are no real safety rating systems available at this time, though it is expected to be developed and available within a few years. In the meantime, the organization would have to specify the safety technology and performance it would accept for use in the supply chain of the organization. For vehicles used in road traffic mixing traffic with vulnerable road users (pedestrians, bicyclists, powered two-wheelers, etc) the choice of road vehicles should include specification of technology that limits crash involvement and crash consequences with such road users. It would be natural to specify pedestrian and bicycle detection with autonomous braking or alike.

For vehicles used in mixed traffic with motorized vehicles like cars and trucks, technology to limit crash involvement and consequences for both employed as well as third parties would be expected. Lane support, autonomous braking for different categories of vehicles and situations would be evident to include in the specifications of vehicles.

It would also be natural that vehicles used would be connected and have the technology for monitoring and for emergency calls or e-call. Systems for speed management, alcohol detection and fitness of driver as well, and also use of protective gear (Active seat belt reminders).

The third safety performance factor (table S-C6) is fitness to drive: The requirements for maximal scoring are; The organization state that there is a zero-tolerance to drugs and alcohol, that drivers avoid distraction through the use of screens etc and that drivers are at all times allowed to stop for resting (no contracts are allowed stipulating fines or punishment for late arrival)

The consequences of drunk driving are dramatic, even with low blood alcohol concentration. In most working environments, across the globe, the use of alcohol or illicit drugs is not allowed and the norms against use in the work are normally strong and consistent. In road traffic, there are varieties regarding the legal limit for blood alcohol concentration, but these should only be seen as the norms of the society as a whole and not norms of the workplace. An organization is therefore expected to have its zero alcohol and drugs policy explicitly also covering road traffic.

Distraction is a common risk factor for safe driving, and the use of devices that generate a driver to look away for more than 1.5-2 seconds is considered unsafe. Therefore, measures must be taken to support drivers to stay focused on the driving task at all times, and not distracted by screens, written messages and alike. The organization would need to demonstrate its policies and actions to avoid distraction.

Fatigue is also a significant risk factor, in particular driving long hours outside the daytime. Drivers must be able to plan

and operate to avoid fatigue and sleepiness, and rest must be a natural part of driving tasks. Drivers must never be punished if they need to rest and should be stimulated to do so on a regular basis. The organization needs to present evidence of its fatigue management and to show that the procedures are evidence-based rather than just fulfilling laws and regulations.

Technical systems are available to avoid drunk driving, and systems are being developed to manage fatigue and hopefully also distractions. These systems can play a key role in managing driver fitness.

The scoring will be reduced if one or more elements of the requirement are not fulfilled.

The fourth safety performance factor (table S-C7) is the use of protective gear: Seat belts, helmets and personal clothing belong to this category. It can be either personal "wearables" for visibility or gear to protect in case of a crash. The organization state that all drivers and passengers using road vehicles in the supply chain must use relevant protective gear at all times. If relevant, the organization provides/requires such gear at no cost for the drivers/passengers belonging to the value chain.

The use of seat belts is today seen as an integrated part of all safety solutions, for vehicle occupants. They must be worn at all times, irrespective of speed and traffic environment.

Helmets are relevant for many types of vehicles, from micro-mobility e-scooters to motorcycles via the bicycle and light mopeds. The performance and design of helmets should match the needs related to vehicle type.

The same expectations would apply also to clothing and possibly other protective wearables. For some types of transport/road use, the visibility would be highly relevant and is also included in this safety performance factor.

The organization has a role to both specify and pick adequate personal gear, as well as make them available at no extra cost for the user within the supply chain.

The organization can choose to add one, voluntary, safety performance factor.

This could be relevant for an organization where, for example, the routes used, could be of relevance. Or it could be an organization's using special types of vehicles that would not fall under the general safety performance factor for vehicles. In any case, the organization would have to show the significance and relevance of the added safety performance factor. To be valued 3 or 2 points, the added safety performance factor would have to be fully implemented (3p) or soon to be fully implemented (2p).

In the case where the organization has chosen to add the voluntary safety performance factor, the total sum of all five factors would be the same as for four factors (12 p) but each factor would have a 1/5 fraction instead of 1/4.

3. SAFETY FOOTPRINT SUPPLY CHAIN



GUIDANCE FOR USE - FOOTPRINT, SUPPLY CHAIN

The requirements for safety footprint within the supply chain of an organization are divided into three categories; employed, contracted and third parties. They follow, in essence, the definitions of GRI 403-9. There are though challenges, in particular finding data about third parties, those killed or injured in crashes with vehicles used in the supply chain of the organization. The organization can choose to estimate one or more safety footprint numbers, but in such cases, the method used must be serious and described.

Safety footprint — employed by the organization, (guidance supply chain) table S-F1

The safety footprint for employed by the organization would normally be quite straightforward to find. In essence, it is a subset of the figures all major organizations since many years would be expected to have and publish in their occupational health and safety work. The difference is that only those killed or seriously injured in a road crash should be reported. For many organizations, the subset of those killed and seriously injured in a road crash would be the largest category of severe workplace casualties. The requirement for maximum score is; The organization has an estimate of the number of killed and seriously injured employed, divided by age/age group, road user category and by country. If the age of victims can't be identified age groups can be used.

There would be some challenges with definitions of road crash, death as a result of a road crash and in particular the definition of "serious injury". It is therefore important that the organization in its reporting describe what definitions have been used, and possible quality issues around reporting and classification.

The organization is also required to subdivide the estimate of the number of killed and seriously injured in road crashes by age/age group of the casualties, their road user category and by country. These are all basic and natural parameters and should in most cases not cause any major problems.

The major categories of road users would be car occupants (driver and passengers), the occupant of a light or heavy truck, bus occupants, motorcycle occupants, bicyclists and pedestrians. Further categories can of course be added by the organization.

It would be expected to also include fall injuries ("pedestrian single crashes") if they occur in the road transport system.

Safety footprint — contracted and dependent on the organization, (guidance supply chain) table S-F2

In this requirement, those employed (including self-employed) that are working in the supply chain, except for those directly employed by the organization, are included. The definition follows GRI 403, in particular 403-9. The same challenges as for employed would arise in finding the data, which means that daily definitions and quality issues would be necessary to investigate and comment. For maximum score, the requirement is the same as for employed. The organization has an estimate of the number of killed and seriously injured contracted, divided by age/age group, road user category and country.

Safety footprint — third parties, (guidance supply chain) table S-F3

This category of the safety footprint no doubt offers a great deal of challenges. It would not be expected that there are registers anywhere in the world that could be directly used to report on third-party victims in road crashes where the organization is involved. For most organizations, third parties would form the largest group of victims. Estimates based on the application of scientifically accepted methods would therefore initially be sufficient and sometimes even preferred as such methods would offer the possibility to control for varying reporting biases.

The organization has an estimate of third parties killed or seriously injured, divided by age/age group, road user category and country.

The definition of third-party would be killed or seriously injured individuals in road crashes involving at least one vehicle from the organization's supply chain. It is important to stress that the term "involved" does not imply any assignment of guilt or crash causation. Such statements would not be relevant without a legal and scientific process and firm decisions by a legal body.

Third-party casualties should be recorded/estimated for both employed and contracted transport, and also where vehicles that are used by these categories but not necessary in trips for duty purposes. As an example, a company car used by an employed or contracted for private purposes should be included if there is serious harm to a third party involving this vehicle.

The organization can in some jurisdictions search for possible cases through the registration of vehicles and their involvement in crashes. This could possibly be done through an official statistics registry or insurance corporations. In any case, there would be major challenges in many parts of the world, but it is expected that for most organizations, the third-party casualties would be the dominant category in the safety footprint of the supply chain.

It is expected that the number of children, divided in smaller children (0-5 years) and children up to 18 years would be explicitly presented.

Safety standards and principles, (guidance supply chain), table P/S-C3

The requirement for maximum scoring is; The organization applies the best available safety standards/practices and apply safe system principles for its products/services.

4. COMMITMENTS FOR ORGANISATIONS WITH SAFETY RELATED PRODUCTS AND/OR SERVICES



GUIDANCE FOR USE - COMMITMENTS FOR ORGANIZATIONS WITH SAFETY RELATED PRODUCTS AND/OR SERVICES

Some organizations also produce/market safety related products or services. For them, there is a separate valuation and rating added to the valuation of the supply chain.

The special requirements for organizations with safety related products or services follow the same logic and pattern as for generic organizations and their supply chain. There are three sections with general policies and statements, and one section with the product or service-specific issues that would be tailored to the types of products or services that the organization produces/maintains and offers. The three sections are ; Engagement of top management and policy, road safety targets, and finally safety standards and principles.

Top management engagement, policy, (guidance supply chain), table P/S-C1

The requirement for maximum scoring is; The top management has taken a clear role in managing traffic safety for its products and services, to be transparent and apply procedures and actions that are evidence-based.

The top scoring stipulate that the statement given by the top management is specific and explicit and express that safety is a core value. The top management would be the Board and/or the CEO.

Road safety targets, (guidance supply chain), table P/S-C2

The requirement for maximum scoring is; the organization has a long- term as well as a time-set target for the safety footprint of its products/ services. While it is clear that a target must be set, it might be a bit more complex when taking into account that the market might change over time in that the organization not only wishes to produce safer products and/or services but also wishes to grow on the market.

There might also be an issue that the organization is a supplier (tier 1, 2 or alike) to other businesses and cannot fully control the safety of the product where the organization's product is used. The definition of the target must therefore be explained in more detail than if the organization fully controls its output.

The use of the best available standards/practices will vary with the type of product or service the organization offers to its customers/clients.

Safety standards and principles, (guidance supply chain), table P/S-C3

The requirement for maximum scoring is; The organization applies the best available safety standards/practices and apply safe system principles for its products/services.

The use of the best available standards/practices will vary with the type of product or service the organization offers to its customers/clients.

Normally, there would be a standard, regulation or consumer rating that would be considered to be the most demanding, at least for parts of the product or service. The organization would have to state which standard, and the reason behind using this/these standards. The organization must also clarify if different standards are used in different area of the world.

The application of safe system principles would also vary with the type of product or service that the organization offers. There are, however, some very basic principles that the organization would have to adhere to. Some of these would be:

- The failing human is the basis for the design and operation of the road transport system
- Safety cannot be traded off to the benefits of the road transport system Science and proven experience are the basis for any intervention
- It is the providers of the road transport system that have the ultimate responsibility for the safety of the system
- Any crash with a fatal outcome must be investigated as to validate applied or planned safety solutions and possibly lead to corrective actions.

Some of the principles would be complex to follow, but the organization would have to explain how it is adopting safe system principles, and it would be expected for scoring on this subject to have at least three of these principles explained and commented.

Safety Performance Factors, vehicle/ vehicle components manufacturer, (guidance products and/or services) P/S-C4a1 to 2

The safety performance factor for a vehicle or vehicle component manufacturer would have to be very specific and relate to its customers and their third parties. The requirement for full scoring is; The vehicles produced, components delivered to customers fulfill the highest available safety standard across all markets. The safety performance is communicated to customers.

This requirement stresses the need for the manufacturer to demonstrate uniformity of its products across all markets, not only applying one standard but to choosing the most demanding. It also stresses that the manufacturer shows to the market and its customers, the performance of its products. While this could be complex for a component

manufacturer, there must be some kind of evidence that the performance is equal across markets.

For a mainstream car manufacturer the requirement for full scoring would be to demonstrate that it is using one, or several, of the most demanding test methods (like Euro NCAP, IIHS are similar), that it reaches top results and that the information is available to the market. Every car model produced and sold for a specific market would have to be tested and rated, at least for cars released within a reasonable production time (old models could be exempted).

A vehicle manufacturer, or vehicle component manufacturer, would also be expected, where relevant, to show how it supports the users to adhere to safe driving, road rules, etc. It is up to the manufacturer to show how this support is defined, designed and functioning.

Safety Performance Factors, service provider, (guidance products and/or services) P/S-C4b 1 to 2

For a service provider that operates through the transport of customers (taxi, bus or alike), or through renting/leasing out road vehicles (including vehicle sharing or similar), the safety performance factors are divided into the choice of vehicles and how the service is provided.

All relevant road rules are followed, in particular speed, fitness to drive, use of protective gear, and nonuse of distractive technology when driving. There are procedures when non-compliance is detected and the requirements are communicated to customers.

Regarding the provision of the service, the situation where the customer is a passenger, the set of rules to follow are obvious. In a situation where the customer is driving the vehicle, for example, a rental car, the customer is supposed to follow all rules, and the supplier would have to both support safe use as well as to detect when this is not the case. Some rules would be more complicated to support and monitor (fitness to drive is an example), others would be simple to make sure they are followed (seat belt use, speed etc). The provision of child restraints, when relevant, is also a requirement.

The choice of vehicles follows the same principles as for the safety performance factors for a generic value chain, with the exemption that customers must be informed of what safety standards and performance that vehicles used in the service have. A rental car or taxi company, for example, would be expected to communicate, in all markets where it operates, the standards and performance of its fleet.

Safety Performance Factors, Road administration, (guidance products and/or services) P/S-C4c 1 to 2

The safety performance factors for a road infrastructure

provider would also be divided into two scoring areas; the standards of its road infrastructure and the support for safe use. The maximum score for the standard of the infrastructure is expressed; The design and operation of the infrastructure have the highest possible rating in a relevant rating system.

While the organization would be expected in the generic requirements to specify what standards it uses for its infrastructure, the requirement for full scoring on the safety performance factor would be to specify the level of fulfillment it has or strives for. The provider of infrastructure might have developed its own rating system, and would therefore have to demonstrate that this rating system is relevant and produce meaningful and reliable results in protecting the road users. It would also be expected that the provider can demonstrate how it operates to support vehicles with safety systems relying on the standard and maintenance of its roads and streets. Line markings could be an example where the road infrastructure provider plays an important role.

It can be argued that fulfilling the highest level in a relevant rating system for infrastructure would be impossible. But considering that the safety level of the infrastructure is a combination between the design and operation of a road/street with the posted speed limit, even a simple design can be safe.

The infrastructure provider is also expected to demonstrate how it supports the user to safe driving. It could be either through cooperation with other stakeholders and/or its own operations. A relevant example might be communication about safe speed, availability of digital speed maps and machine-readable speed signs across the network. It might also be speed cameras, speed checks and similar technology to support safe speed.

Safety Performance Factors, traffic safety education/ training/consulting, (guidance products and/or services) P/S-C4d 1

The safety performance factor for a traffic safety education/training/ consulting organization would have to be very specific and relate to its customers and their third parties.

The service content delivered to all relevant customers/ clients address safety performance factors, and best practice for each of them is applied. Up to four safety performance factors are valued and should include speed, vehicle safety, fitness to drive and use of safety gear. If relevant, one or several safety performance factors could be replaced.

The challenge related to traffic safety, training/education is to analyze and describe the link between the service provided and the resulting effect that will eventually take place on the recipient of the service. The organization would have to describe how the link between its activity and the safety performance factors is relevant and actually

works.

While this may be easier for a consulting service offering advice and solutions to vehicle or infrastructure producers, it would be more complex in relation to education/training. A minimum requirement is that the provider of such services can demonstrate the progress of the named safety performance factors with the recipient, at least on an aggregated level, showing the added value of the organizations activities.

5. SAFETY FOOTPRINT FOR ORGANIZATIONS WITH SAFETY RELATED PRODUCTS AND/OR SERVICES



GUIDANCE FOR USE - SAFETY FOOTPRINT FOR ORGANIZATIONS WITH SAFETY RELATED PRODUCTS AND/OR SERVICES

Tables P/S-F1 and F2

The safety footprint for an organization with safety related products or services would relate to its customers/clients and their third parties. For an infrastructure provider, the division in users and third parties would not have any meaning and they are instead added to each other. The same

would apply for an organization delivering education/training/consulting. While it could be complicated to obtain data on the actual outcome of the activities at the recipient of the service, a serious estimate of the effects could be accepted.

For many organizations, there would be major problems in obtaining relevant figures for their footprint. For a vehicle/vehicle component manufacturer, there would be several ways to estimate their safety footprint. Such estimates would be accepted if they are based on methods that are scientifically sound and the calculations are published alongside the estimates. Relying on estimates would in some cases even be preferred as such estimates could take reporting and quality biases into account and control for them.

For an organization that educates/trains or delivers consultancy, the footprint occurs within their client's value chain, but an estimate of the footprint would be expected. There could be a lengthy time between the delivery of the service and the resulting footprint. A description of the logic of how the safety footprint is estimated and what it is referred to would therefore be expected.

GUIDANCE FOR USE - OVERALL CONTENT OF FIA RS INDEX RE VALUE CHAIN

References

- FIA RS Index feasibility study
- FIA RS Index Framework.
- FIA RS Index Manual part 1
- ISO 39001:2012, Road traffic safety (RTS) management systems — Requirements with guidance for use. Geneva 2012.
- ISO 45001:2018
- Occupational health and safety management systems — Requirements with guidance for use. Geneva 2018.
- Global Reporting Initiative. <https://www.globalreporting.org> ILO (International Labour Organization) ILOStat 2020.
- Swedish Transport Administration. Saving Lives Beyond 2020: The Next Steps - Recommendations of the Academic Expert Group for the Third Ministerial Conference on Global Road Safety 2020. Borlänge, Sweden, 2019.
- WHO Global Plan for the Decade of Action for Road Safety 2021-2030. WHO, Geneva, 2021

Definitions and explanations

FATALITY

A fatality in the road traffic system is defined by location, origin and time. Normally, it is supposed to take place on a public road, resulting from a road traffic crash (without intention), within 30 days after the crash. In some cases, and in some jurisdictions the time span between the crash and death could be shorter.

ROAD/STREET

A surface that vehicles and peoples use for travel/transport including the adjacent area (from ISO 39001). Note that parking lots etc that are not closed for public traffic or transport are included in the road/street definition.

Road Traffic/Transport

Motorized or non-motorized usage of a road (street) (including walking).

RATING ELEMENT

The rating elements are the main components of the FIA RS Index. At this point in time, the FIA RS Index contains three of them; Supply/value chain analysis, Commitment and Footprint. Later, three more areas will be added; Planning, Monitoring of safety performance and Safety culture management.

SAFETY FOOTPRINT

The number of fatalities and seriously injured persons as a result of road traffic crashes occurring within the organization's entire value (or supply chain solely). All activities, products and/or services should be included in

the safety footprint unless the supply chain safety footprint is calculated separately from the safety footprint of products/services.

SAFETY PERFORMANCE FACTOR

A measurable factor, element or criterion contributing to road traffic safety that the organization can influence and that allows the organization to determine impacts on road traffic safety (from ISO 39001).

SCORING AREA

Under every rating element, there are several scoring areas with requirements/demands for 1-3 points. The scoring areas have different weights, depending on the relative importance of each area, with a multiplication factor. The scoring areas can be summed for each rating element and finally used to produce a star rating.

SERIOUS INJURY

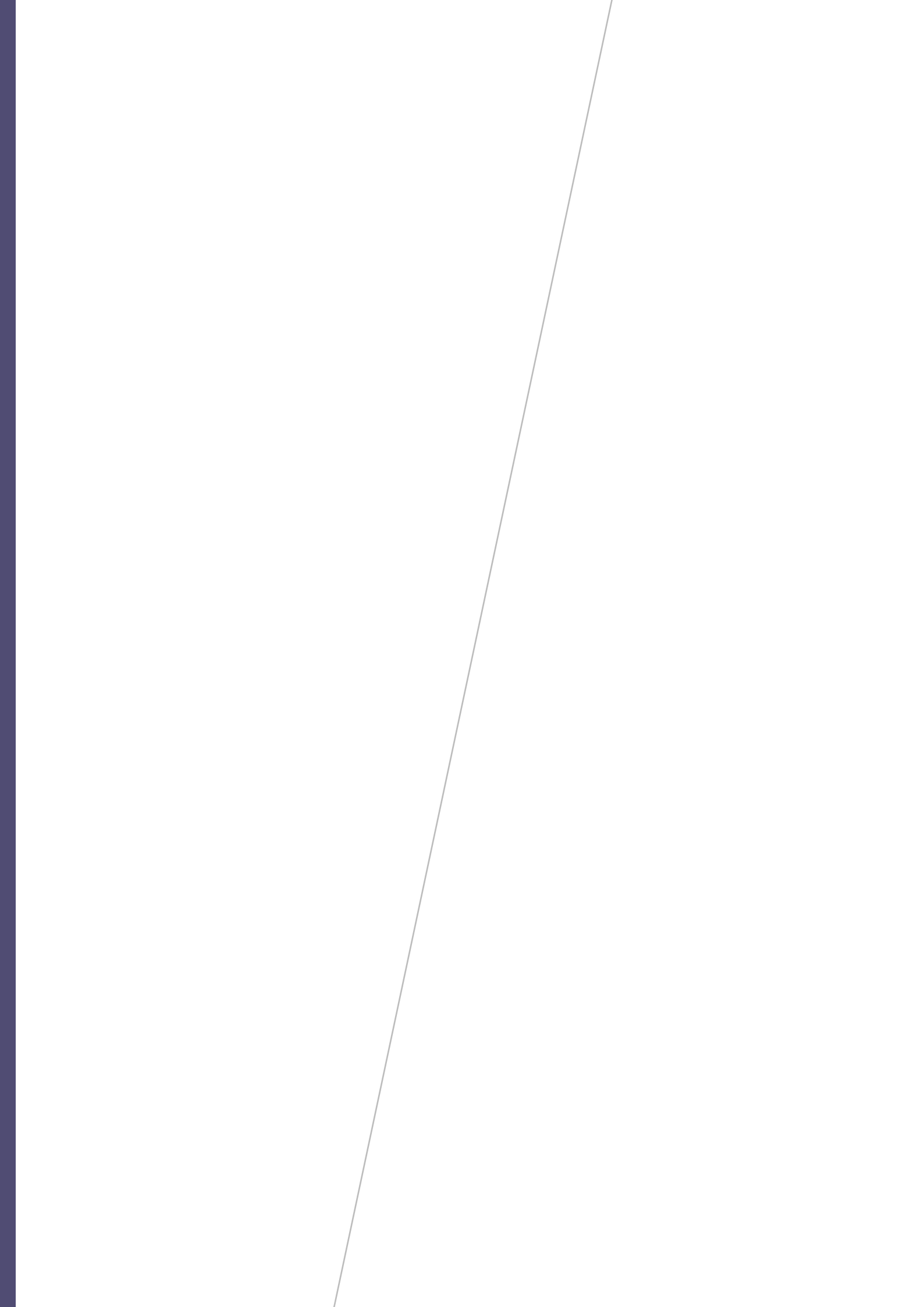
A serious injury in the road traffic system is defined by location, origin and severity of injury. It is supposed to take place on a public road, resulting from a road traffic crash (without intention), but the level of severity varies substantially. The severity could be related to admission to the hospital, be based on the immediate need for treatment based on certain diagnoses or be related to long-term loss of health (impairment or disability).

SPHERE OF INFLUENCE

The expression "sphere of influence" refers to an organization's potential ability through its activities, products and/or services, to improve road traffic safety within its entire value chain. Following this definition, it also covers all interested parties within the value chain.

SUPPLY CHAIN ACTIVITIES, RESOURCES ... VALUE CHAIN

The supply chain added with the value for customers, clients and/or the society.





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