

# Limitation of liability for suppliers of embedded software

Introduction .....	1
Glossary.....	2
1 Reasons for limiting liability.....	2
1.1 Peculiarities of software components for the automobile .....	2
1.2 Overview of the risks .....	3
1.2.1 Infringement of third party Intellectual Property rights .....	3
1.2.2 Liability for delayed delivery .....	4
1.2.3 Liability for product defects .....	4
1.3 Recommendation by the VDA .....	4
1.4 Pros and cons of liability limitation .....	5
1.5 Permissibility of a limitation of liability .....	6
1.6 The recommendation of AESAS.....	6
1.6.1 Liability .....	6
1.6.2 Risk minimization through quality measures.....	6
2 Differences among national jurisdictions.....	6
3 Explanation of liability claims .....	7
3.1 Bases for liability .....	7
3.2 Product liability as defined in the PHG.....	7
3.3 Recourse liability.....	8
3.4 Manufacturer's liability as defined in BGB.....	8

## Introduction

Liability is an unpopular but important subject, for the supplier as well as the customer. Therefore, AESAS has drawn up a recommendation that represents a win-win situation for both the customer and the supplier.

The legal issues will be discussed with reference to German Law. Chapter 2 deals with the way these issues may be treated under the legal systems in other important automobile markets.

The third chapter addresses those who are unversed in the law. It describes the most important concepts and principles of liability in terms that can be understood more generally.

## Glossary

Abbreviation	Meaning
AGB	General Terms and Conditions
BGB	German Civil Code
NDA	Non-Disclosure Agreement
PHG	German Product Liability Act

IP	Intellectual Property
OEM	Original Equipment Manufacturer
SOP	Start of Production
SWH	Software Manufacturer, also referred to as Supplier in the text
Tier 1	First level subcontractors (system suppliers)
AESAS	Association of European Suppliers for Automotive Software <a href="http://www.aesas.org">www.aesas.org</a>
VDA	German Association of the Automotive Industry (Verband der Automobilindustrie e.V.) <a href="http://www.vda.de">www.vda.de</a>

# 1 Reasons for limiting liability

## 1.1 Peculiarities of software components for the automobile

The use of software creates special risks both for the software supplier and for the vehicle manufacturer.

Because production volumes for the purposes of electronic control units are normally very large, the resources of memory requirement and computing power must be carefully husbanded. As a consequence of this, a software supplier must deliver software that can be configured flexibly. Otherwise, such units could not be used for such a wide range of applications with the minimum possible use of resources.

Moreover, the software supplier is usually at the beginning of supply chain that links tier 1, tier 2 and the vehicle manufacturer. The specific circumstances under which its component is put to use are most often unknown to the supplier. They are not able to test their software after it has been integrated in the control unit. Besides, the enormous number of variations in configuration mean that more often than not it is not possible to test every conceivable configuration variant of the software component before it is shipped.

As a result, the software supplier has lost some of its ability to protect itself from potential risks. And the risks for the software supplier are considerable.

A motor vehicle is a product with high potential for endangering the life and health of its passengers and other road users. It is manufactured in large numbers and operated all over the world. Faults can only be corrected by means of recall actions, which are costly and damaging to a company's reputation.

But the risk of financial loss and image damage is borne above all by the vehicle manufacturer. Why should the manufacturer or its supplier agree to limit the liability of the software supplier?

## 1.2 Overview of the risks

The most important risks that may serve as a basis for a liability claim are

- infringement of IP rights of third parties, e.g. patent infringements

- Liability for delayed delivery (default)
- Liability for product defects

These risks differ immensely in terms of the means used to combat them and their potential to do damage. Therefore, they will be discussed here briefly before the arguments for and against limitation of liability are addressed in more detail.

### **1.2.1 Infringement of third party Intellectual Property rights**

The potential damage usually depends on production volumes. Its possible limit cannot be estimated ahead of time. Accordingly, this risk cannot be ignored.

The software supplier can try to protect itself by means of a patent search. There are several reasons why this is not an ideal solution.

Patent searches are not totally sustainable. More importantly, they are country-specific. This means that the customer must tell the supplier which countries are to be taken into consideration.

Another very persuasive argument is that patent searches cost time and money. In this case, the customer is in a difficult position, because they can only weigh the severity of the risk against the expense of the protective measures. For example: How long a delay in delivery will the customer tolerate so that a patent search can be carried out?

### **1.2.2 Liability for delayed delivery**

Delivery reliability falls squarely into the area of responsibility of the supplier. By careful project management and organization, it must ensure that the software is delivered in good time. Delayed delivery becomes especially critical when an SOP is threatened.

However, the likelihood of a delay is determined by the precision of the software specification and overall project planning. These elements are usually dictated by the customer. Good protection against liability for delayed delivery therefore requires good joint project preparation on the part of the customer and the supplier.

### **1.2.3 Liability for product defects**

The potential for damage due to recall actions or bodily injury is terrifyingly high. And the likelihood of a liability case cannot be discounted. 100% error-free software is not technically possible yet. Besides, the supplier usually does not know the specific application, the hardware and software environment, or the configuration in which the customer intends to use the software.

The software supplier can make efforts to protect itself against this risk with a quality-optimized development process and software tests. But its capabilities are limited since the variations are innumerable and it cannot test every application scenario. Most significantly, it cannot test for the proper use of the software. In order to be able to do this, the supplier would have to be involved in the product release by its customer.

## **1.3 Recommendation by the VDA**

The Verband der Automobilindustrie e.V. (VDA) recommends the following regulation regarding liability based on fault (often referred to as the "Fair Play Clause") to its members for the purposes of business with supplier:

*In general, grounds for liability for damages only exist if the supplier is guilty of the damage caused. When determining the amount of compensatory damages the supplier must pay [...] reasonable consideration is to be given to the supplier's financial circumstances, the nature, scope and duration of the business relationship, any proportional share in the cause or guilt on the part of the orderer in accordance with the provisions of § 254 BGB, and a particularly awkward installation location of the supplied part, to the benefit of the supplier.*

*In particular, the compensation payments, costs and expenses that are to be borne by the supplier must be reasonably proportional to the value of the supplied part.*

Comment: The reference to § 254 BGB essentially means that joint guilt in the occurrence of the damage on the part of the injured party as well as failure on the part of the injured party to take steps to prevent or minimize the damage will be considered to the detriment of the injured party.

## 1.4 Pros and cons of liability limitation

At this point, it is worth repeating the question as to why a vehicle manufacturer or its supplier should agree to limit the liability of the software supplier. Limitation of liability certainly represents several disadvantages for the manufacturer. Quite apart from the financial loss the customer would suffer in the event of a liability case, it would also lose some of its ability to bring pressure to bear on the supplier. There will also be lengthy contract negotiations regarding a liability case that will hopefully never happen.

But the customer will also gain advantages, which outweigh the disadvantages.

The reason is predicated on the fact that liability is intimately bound up with risk management. While it is true that liability determines behavior after the damage has occurred, the discussion about a possible liability case will yield a clearer understanding of the risks of the project and the opportunities for limiting and avoiding damage for both partners, the customer and the supplier.

In its own interest and that of its employees, the software manufacturer needs a clear understanding of the risk it is accepting by entering into the delivery agreement. Depending on its legal form, the company may even be prohibited by law from assuming incalculable and uncontrollable risks.

But this is in the interest of the customer as well. No one wants to see their projects threatened because a third party's claim for damages has forced the supplier into insolvency. Even the customer that has suffered the damages has an interest in ensuring that the supplier remains in business, so that it can correct the fault as quickly as possible.

The phrasing by the VDA, to give consideration to the business situation "to the benefit" of the supplier also indicates that it is not in the vehicle manufacturer's interest to prosecute the supplier's liability to the utmost. This is also based on the realization that smaller suppliers are quite unable to provide full restitution for a damages case such as a recall action.

For this very reason however, the customer should not be content to note blandly that it will not drive its supplier into bankruptcy if a liability case arises. In its own interest, the customer must understand precisely the share of the risk that it bears as well. It must reach agreement with the supplier regarding suitable measures for reducing the risk.

In financial terms too, it makes sense for the customer and the supplier to cooperate. Insurance premiums and accruals cost money. Redundant protection by the customer and the

supplier leads to unnecessary extra costs. These can be avoided if both parties know the contribution they must make.

Moreover, the software supplier is often not able to assess the risk. He does not know what function in the vehicle his software is to perform, whether it is for the radio or the brake. He does not know how many products are being built or for how long he will have to provide a financial guarantee. As a result, he will obtain too little or too much coverage. He can only decide on the optimum in consultation with the customer.

Of course, this does not mean that the supplier is exonerated of all liability. Liability is a lever that can be used to encourage the supplier to perform his duties diligently. But it is in the interest of the customer to reach agreement with the supplier regarding protection measures, and the amount of liability payments is an important element in these discussions.

## 1.5 Permissibility of a limitation of liability

Even if liability limitation is advantageous for all parties, the question as to whether it is also permissible under the law must also be asked.

In fact, the law limits the options in the general terms and conditions of business. However, the previous chapter explained that a situation that is advantageous for both sides can only be achieved with an individual agreement that has been drawn up jointly and tailored to the respective project. Therefore, the wording of general terms and conditions is not discussed in this document.

Furthermore, limitation of liability does not apply in cases of gross negligence. This goes without saying, of course. The supplier's objective is to work with all due diligence. Limitation of liability is only intended to regulate handling of risks that are unavoidable despite the greatest care.

## 1.6 The recommendation of AESAS

### 1.6.1 Liability

- Agreement on reasonable a monetary amount to which liability will be limited, it "should hurt" but also result in a clear understanding of the entrepreneurial risk.
- Additional liability if the damage is covered by the software supplier's public liability insurance policy and the insurer has paid.
- The software supplier must provide proof of a "state-of-the-art" public liability insurance policy with sufficient coverage amounts, particularly for (real) financial losses, and the coverage must be maintained for the duration of the contractual relationship with the OEM/Tier 1.

### 1.6.2 Risk minimization through quality measures

- The members of AESAS undertake to implement corresponding documentation and development processes.
- OEMs and Tier 1 are invited to regularly scheduled audits.
- OEMs and Tier 1 should include software suppliers in the integration and release test.

## 2 Differences among national jurisdictions

Legislations regarding product liability and warranty regulations are essentially the same within the EU.

The Japanese and Korean laws are based on the BGB of 1898. They are therefore very similar to German Law, though certain amendments in the meantime have led to differences.

The most pronounced differences occur in Anglo-Saxon legal systems, particularly in the USA. In the USA, it is possible to exclude liability almost completely. However, this requires extremely careful, "water-tight" formulation.

### 3 Explanation of liability claims

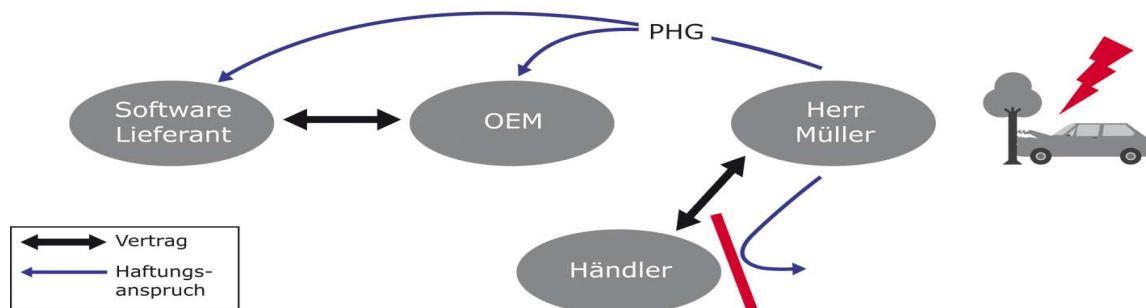
#### 3.1 Bases for liability

Before a customer can hold its supplier liable for damages, the customer must have a legal basis. There are several possibilities.

- These are: **Contractual liability**, which is based on a contract that has been agreed individually between a customer and a supplier.
- **Product liability** as defined in the German Product Liability Act (PHG)  
This is the supplier's legal responsibility for each individual product it makes and brings to market.
- **Recourse liability** of the supplier for claims by the end customer against the customer or the company that ultimately sold the software to the end customer (OEM or Tier 1).
- **Manufacturer's liability** as defined in BGB  
This concept is used to provide a legal context for the supplier's responsibility for design, production, information and product monitoring.

If there is a conflict between these regulations, the individual agreement has priority over the general statutory regulations.

#### 3.2 Product liability as defined in the PHG



The Product Liability Act provides the end customer with a legal basis with respect to the manufacturer, with whom he did not enter into a contract. Car buyers normally sign a purchase agreement with a commercial or even a private dealer. However, the dealer is not guilty of a manufacturing fault and he cannot be made liable for one. The PHG gives the end customer the ability to bring a claim for liability against the manufacturer directly, even with no contractual basis.

The liability claim stands even if the manufacturer is not at fault. However, it is essentially restricted and limited to personal damages.

Since a contractual relationship does not exist between the end customer and the software supplier, liability based on the PHG cannot be limited.

### 3.3 Recourse liability

Recourse liability is concerned with transferring liability claims by third parties to the causer. In the illustration below, the OEM files a liability claim against its Tier 1 on the basis of their contractual agreement. The Tier 1 in turn files a complaint for liability against its supplier. Since the liability claims are regulated in contracts, this liability can be limited.



### 3.4 Manufacturer's liability as defined in BGB

Manufacturer's liability also provides for legal liability claims without a direct contractual relationship between the end customer and the manufacturer. However, unlike the PHG, the fault must be with the manufacturer, e.g., insufficient diligence in development or production. Liability is not limited for such cases.