The Impact of Automotive Standardization to Liability Risks Arising from Defective Software, Especially under European Law
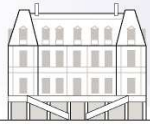
SAE 2008

World Congress

April 14 – 17, 2008, Detroit

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2008-01-0122

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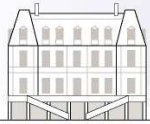
A tradition in innovation

KANZLEI DR. ERBEN

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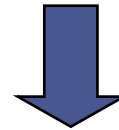Law firm KANZLEI DR. ERBEN, Heidelberg, Germany

2008-01-0122

Introduction

q   Software cannot be developed without defects (experts estimate for commercial and technical software: 2-3 errors per 1000 lines of program code).
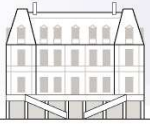
defects

⬇
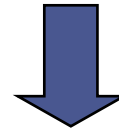
direct consequences
(e.g. recall actions, damages to customers)

⬇

produce high costs and cause damages to the producer's / supplier's reputation
may lead to insolvency of small and medium sized producers / suppliers

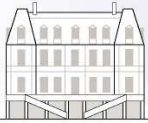➔   Prevention of defects must be a major concern of any producer and/or supplier of safety relevant software.

2008-01-0122

Contents

Contractual liability(1/2):

q   Applies only towards the contractual partner.

q   The statutory limitation period with respect to claims based on defects is two (2) years (according to the European Directive 1999/44/EC), starting with the delivery of the software.

Towards merchants, this period may be reduced to one (1) year in General Terms and Conditions.

q   The contractual partner may claim for remedy of the defects or substitution of the defective product(s).

q   The contractual partner may claim for reduction of the product price or rescind from the contract.
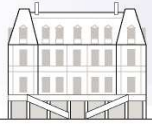
Contractual liability (2/2):

Only if the defect has been caused by producer's / supplier's <u>negligence</u>:

q The contractual partner may claim for compensation for damages arising from the defect (including indirect damages, e.g. loss of profit, etc.).
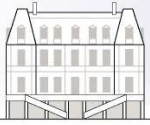
Software is defective in terms of law:

q   If the software does not comply with the specifications agreed on between the parties.

q   As far as no such specifications are agreed on in the contract:

  ❍   If the software does not contain those features necessary for the use of the software which is intended by the parties' agreements relating to the software, or

  ❍   If the software does not contain those features which the customer may reasonably expect from software of the same category as the software in question.
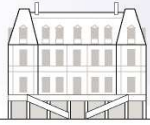
To comply particularly with the requirements with respect to safety issues, the software:
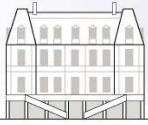
q   Has to be designed, developed and produced in accordance with the current standard of science and technique (= state-of-the-art techniques).

q   Has to be designed, developed and produced in accordance with the typical use of the software usually applied by the relevant occupational groups.

q   What happens if only a working draft, e.g. ISO/WD 26262 "Road vehicles – functional safety", does exist?

According to a German's court decision based on European law, it is not likely that the requirements of a draft were known by the engineer if the draft only has started a discussion about the relevant safety requirements. Therefore, the product is only defective if the discussion is in a phase where the relevant public should have heard of it, e.g. because of publications. Please note that a product may also be defective if there is no discussion about it, e.g. if a problem is obvious to a skilled person .

To comply particularly with the requirements with respect to safety issues, the software:

q   Has to be designed, developed and produced in accordance with the current standard of science and technique (= state-of-the-art techniques).

q   This standard is also defined by technical norms (see below)

q   Has to be as safe and secure as the customers (i.e. the public) may reasonably expect with respect to the software's common application areas.

The customer's expectations are legitimately influenced by the price range of the product.

➔   *For example, a luxury car can be expected to have more safety-designed features than a lower middle class car.*
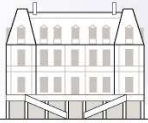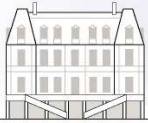
Limitation of Contractual Liability

q   In **Individual Contracts (Framework Agreements)**

   m   Only limitation of liability for wilful misconduct in advance is not allowed.

   m   Limitation for normal negligence is possible (and important).

   m   Limitation for gross negligence is possible, but maybe not too wise:

     According to European jurisdiction gross negligence means not to pay attention to things which should be clear to anyone. Do you want to tell your costumer that you expect not paying attention to what should be clear to anyone and that you even do not want to be liable in this case?

Limitation of Contractual Liability

q In **General Terms and Conditions**

    m Possible only to a small extend.

    m Not possible for wilful misconduct and for gross negligence:

    m For Normal negligence not possible for essential obligations (has to be phrased expressly). If legal requirements of phrasing is not matched:

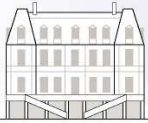   è *Whole* limitation will be void and the liability unlimited!

        CAUTION:

        The drafting of <u>valid</u> limitations of liabilities in General Terms and Conditions is very tricky

   ➔ *Always consult an experienced IT-lawyer*
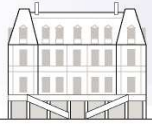
Statutory Liability:

q   It only applies in case of personal injury, death or property damages.

q   It does not apply with respect to pure financial losses.

q   It applies independent of whether the producer has acted negligent or not.

q   It may not be modified or restricted by agreements between the contractual partners involved.

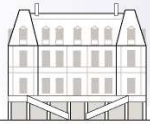**Product Liability** only states liabilities of the "*producer*".

A **producer** in terms of **Product Liability** is:

q   The manufacturer of an end product.

q   The producer of any raw material.

q   The producer of a component part (e.g. embedded software producer(!)).

q   Any entity which, by putting its name, trade mark or other distinguishing feature on the product, presents itself as its producer.

q   Any entity which imports into the EU a product for sale, hire, leasing or for any form of distribution in the course of its business.

q   Where the producer of the product cannot be identified: Each supplier of the product unless the supplier informs the injured person, within reasonable time, of the identity of the producer or of the entity that supplied the supplier with the product.
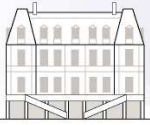
<u>Product Liability</u> :

❑ Applies for defects caused by:

    m   The development and/or the design of the software

    m   The manufacturing process of the software

    m   An incorrect user and/or installation documentation:

         ➢   According to European jurisdiction, software manuals are part of the product: If the manual is "defective", the software is defective.
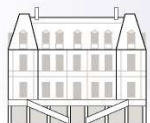
Does compliance with all relevant laws, safety standards and/or state-of-the-art techniques result in an exclusion of the producer's / supplier's liabilities?

?
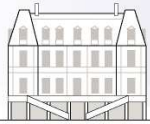
No!

q   The statutory laws, safety standards and/or state-of-the-art techniques only determine the minimum standard the customer can reasonably expect.

➔   The compliance with all statutory laws, safety standards and/or state-of-the-art techniques is only circumstantial evidence that the software has been developed state-of-the-art by the producer.

In particular, the compliance with all these laws, standards and techniques does not exclude the developer's liability if:

❍   The technical progress has gone beyond the applicable norms, and/or

❍   The use of the programs has revealed any new potential risks.

Organizational Requirements

q   Pre-supplier products have to be sufficiently tested.

q   Producer has to monitor the software (also) after its distribution.

q   Producer has to structure the development process using adequate phase schemes and milestones.

All these measures have to be documented and the documentation has to be filed for the case of legal conflicts.
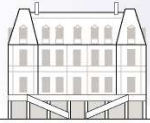
Organizational Requirements

q   All applicable safety laws, especially the European Directive 2001/95/EC concerning Product Security and its national transpositions.

q   All applicable technical norms / standards (e.g. IEC 61508, IEC 61511).

q   The compliance with process maturity models such as CMM, CMMI or SPICE is – from a legal point of view – only necessary to the extent that their content is contained in IEC 61508 , IEC 61511 or in any other applicable norm.

But: **The implementation of maturity models helps the producer to prove that he has complied with the applicable technical norms.**
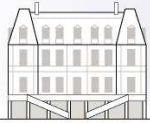
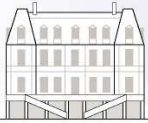**Special requirements for the development and production of embedded software:**

q   Consideration of the hard- and software requirements of all applicable parallel environments (including concepts for design, implementation, testing, integration and simulation processes).

q   Implementation of reasonable

 ❍   Risk management,

 ❍   Risk control procedures, and

 ❍   Configuration management.
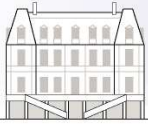
Requirements Concerning Contractual Management:

Contracts should stipulate:

q All relevant features of the software and performance criteria.

q Testing procedures and acceptance criteria.

q Clear change-request procedures.

q Whether the delivered software has been specifically released for serial production.

q Rules on the limitation of the producer's / supplier's liabilities for ordinary negligence.

q Clear milestones and – realizable (!) – time lines.

q Descriptions of both (!) parties' obligations, including cooperation obligations.

q Rules on escalation procedures.

Implementation of Organizational and Legal Requirements:

q   IEC 61508 is an international generic standard.

q   For the automotive industry, it is a main standard until an ISO norm exists (probably in 2008).

q   The direct implementation of IEC 61508 is difficult because it is not process orientated.

q   The recommended action is to apply and implement a process management approach such as CMMI or ISO 15504 (SPICE).

q   The Maturity Level 3 is a good basis for an IEC 61508-conform process.
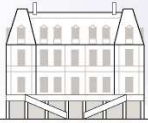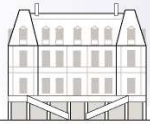
producer   producer

The statutory evidence rules with respect to Product Liability are basically identical to the rules applying to contractual liability:

q   Claimant has only to prove that the defect was caused by the relevant product and that the defect originates from the sphere of the ~~contractual partner~~.

q   The ~~contractual partner~~ may (and must!) prove that the fault was not caused by his negligence.

➔   ~~If the contractual partner is a producer~~, the producer has to prove that he has taken any measures possible and reasonable to avoid the formation of defects, <u>in particular by implementing and using quality assurance measures</u>.

➔   ~~If the contractual partner is a (pre-)supplier~~, the supplier has to prove that he has taken any measures possible and reasonable to detect the defect before delivery, <u>in particular by implementing and using state-of-the-art test procedures and logistics systems</u>.
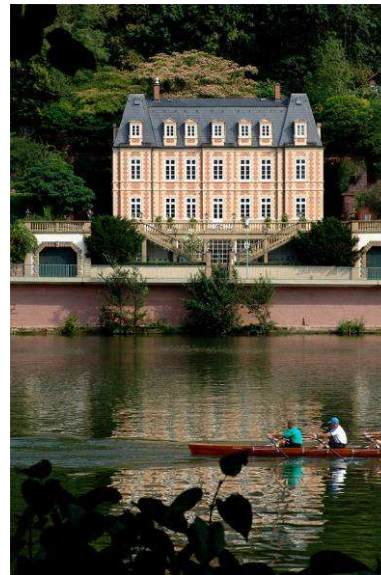
The implementation and use of these measures have to be documented and the documentation has to be filed for the case of legal conflicts.

Thank you for your attention!

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