The Legal and Economic Risk of Open Source

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The Legal and Economic Risk of Open Source (and how to master them)

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Agenda

- What is Open Source?
- What are the reasons for and advantages of Open Source?
- Are there any legal risks and, if so, how can they be mitigated?
- Are there any economic risks and, if so, how can they be mitigated?

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What is Open Source?

- "Open Source" is a legal term and specifies a particular version of a software license. It is the opposite of proprietary software.
- There are some basic differences and accordance between proprietary and Open Source software:

Action to do with the software	Limited by	Proprietary software	Open Source software
Use	Manufacturer	Requires agreement	Permitted by donation
Copy and distribute	**Law (!)**	Requires license	Requires license

What is an Open Source license?

- A software license may not be called “Open Source”, unless if fulfills certain minimum conditions:
  - It must grant unrestricted rights to
    - use it,
    - analyze it,
    - modify it, and
    - copy and distribute modified or unmodified versions of it.

How does Law limit copying and distributing?

- To copy and distribute a work is regulated by copyright law
  - USA: Copyright Act
  - Germany: Urheberrechtsgesetz (UrhG)
- Question: Does copyright law protects Open Source software as well, or do special regulations apply to Open Source software?

Copyright law protects any “work“ including, of course, Open Source software

How does copyright law work?

In contrast to nearly all other rights that a natural or legal person can acquire, the primary copyright that a creator of a work receives **is not granted by a signed contract nor by any other individually designed agreement**.

This primary copyright of a creator **is automatically granted** and can be seen as kind of a multilateral legal condition between one natural person (the creator) and any natural or legal person in a legislation that has adopted copyright law.

What is protected by copyright law?

Copyright law protects “works”.

What is a work?

What is a work?

Question 1: Who is the creator of the work?

- A work protected by copyright must be created by a human being, that is, by a natural person.
- Things created by animals – including primates – are not considered works in terms of copyright. Same principle applies to things created by a computer by itself.
- Plants, trees or even animal products, e.g. skins or mussels with exceptional designs are not protected by copyright.
- Natural objects, like stones, for instance, are not protected by copyright.

What is a work? (2)

Question 2: Is the work perceptible by human beings?

- The work must be able to be perceived by the senses of a human being.
- The work does not have to be embodied. It can also be a sequence of tones (music) or movements (theater, dance).

What is a work? (3)

Question 3: Is the work a result of individual creativity?

- The work created by an author has to be new or different in order to be protected by copyright.
- The work must reflect a recognizable individuality of the creator.
- In case two very similar or even practically identical works are created accidentally and independently by two different people, both works are protected by copyright – even if in an individual case it might be difficult to correctly determine who is the author of which instance of the work.

What has all of this to do with software?

Copyright law protects works of art and literature

- Somebody who writes something is a writer.
- The work of a writer is called literature.
- A person who is programming, writes (software). As a result, software belongs to literature and is protected by copyright.
- For that reason, copying software is prohibited by copyright law. If you want to copy software anyway, you need a permission (license).

Which types of permissions exist?

1. Legal permissions
    a) Backup copies
    b) Copies made during proper use
2. Licenses from holders of exclusive rights of use
    a) When acquiring an individual data carrier
    b) Contractual permission to create copies (e.g. runtime-license)

License rules of thumb

- First of all, a license is always something "good", because something is allowed that normally is not permitted.
- Even a license that only grants minimal rights of use is better than no license.
- Without license, the “default“ state occurs, this means copyright applies, and any copying and distributing is not permitted.

The creator of a work has two different rights

Exclusive rights of use

- The author of a work has exclusive rights of use. The author may grant rights of use to third parties; such granting of rights is called a license.

Moral rights of authorship

- Even after the transfer of the rights of use, the author has the right to claim authorship of the work and may object to any modification of the authorship information. In addition, the author may object to any modification of the work that would negatively affect the author's reputation. In Europe and in many other countries, the right of authorship cannot be transferred.

International copyright law

— 493 —

Reichs-Gesetzblatt.

№ 40.

Inhalt: Uebereinkunft, betreffend die Bildung eines internationalen Verbandes zum Schutze von Werken der Literatur und Kunst. S. 493.

(No. 1751.) Convention, concernant la création d'une Union internationale pour la protection des oeuvres littéraires et artistiques.

Sa Majesté l'Empereur d'Allemagne, Roi de Prusse, Sa Majesté le Roi des Belges, Sa Majesté Catholique le Roi d'Espagne, en Son nom Sa Majesté la Reine Régente du Royaume, le Président de la République Française, Sa Majesté la Reine du Royaume-Uni de la Grande-Bretagne et d'Irlande, Impératrice des Indes, le Président de la République d'Haïti, Sa Majesté le Roi d'Italie, le Président de la République de Libéria, le Conseil Fédéral de la Confédération Suisse, Son Altesse le Bey de Tunis, également animés du désir de protéger d'une manière efficace et aussi uniforme que possible les droits des auteurs sur leurs oeuvres littéraires et artistiques, ont résolu de conclure une Convention à cet effet, et ont nommé pour Leurs Plénipotentiaires, savoir:

(Uebersetzung.)

(Nr. 1751.) Uebereinkunft, betreffend die Bildung eines internationalen Verbandes zum Schutze von Werken der Literatur und Kunst.

Seine Majestät der Deutsche Kaiser, König von Preußen, Seine Majestät der König der Belgier, im Namen Seiner Katholischen Majestät des Königs von Spanien Ihre Majestät die Königin-Regentin von Spanien, der Präsident der Französischen Republik, Ihre Majestät die Königin des Vereinigten Königreichs von Großbritannien und Irland, Kaiserin von Indien, der Präsident der Republik Haïti, Seine Majestät der König von Italien, der Präsident der Republik Liberia, der Bundesrath der Schweizerischen Eidgenossenschaft, Seine Hoheit der Bey von Tunis, gleichmäßig von dem Wunsche beseelt, in wirksamer und möglichst gleichmäßiger Weise das Urheberrecht an Werken der Literatur und Kunst zu schützen, haben den Abschluß einer Uebereinkunft zu diesem Zweck beschlossen und zu Ihren Bevollmächtigten ernannt, nämlich:

Ausgegeben zu Berlin den 30. September 1887.

Berne Convention for the Protection of Literary and Artistic Works

Date	States
December 5, 1887	Belgium, Germany, France, Italy, Switzerland, Spain, Tunisia and United Kingdom
March 1, 1989	USA
February 2018	A total of **175** states

Article 5 of the Berne Convention

1) **Authors shall enjoy**, in respect of works for which they are protected under this Convention, **in countries of the Union** other than the country of origin, **the rights which their respective laws do now or may hereafter grant to their nationals**, as well as the rights specially granted by this Convention.

2) The enjoyment and the exercise of these rights **shall not be subject to any formality**; such enjoyment and such exercise shall be independent of the existence of protection in the country of origin of the work. Consequently, apart from the provisions of this Convention, the extent of protection, as well as the means of redress afforded to the author to protect his rights, shall be governed exclusively by the laws of the country where protection is claimed.

How does a license look like?

- The licensor grants rights to the licensee.
- The licensee is imposed obligations by the licensor.
- Non-fulfillment of obligations will be sanctioned; in that event and as a general rule, the rights granted will be withdrawn.

Example of a license with rights and obligations

GPLv2 Artikel 1:

```
1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.
```

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1. **You may** copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, **provided that** you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

The license usually becomes void, if license obligations are not fulfilled

GPLv2, Section 4:

```
You may not copy, modify, sublicense, or distribute the Program except as
expressly provided under this License.

Any attempt otherwise to copy, modify, sublicense or distribute the
Program is void, and will automatically terminate your rights under this
License.
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> You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License.
>
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What are the rights of the licensor in case of copyright violations?

- The copyright law regulates the claims a right holder may assert against a licensee in the event of non-fulfillment:
  - Obligation to inform all customers to whom the unauthorized copies have been conveyed.
  - Provision of complete customer lists.
  - Physical destruction of unauthorized copies.
- Injunctive relief (from now onward any copying is forbidden).
- Penalties may be imposed for infringement of copyright law.

And now a version for programmers ...

```
# Default by copyright law
copyright = distributionright = 0;

if (add_copyright_notices_to_manual() &&
    add_disclaimer_of_warranty_to_manual() &&
    add_license_text_to_manual()) {
        copyright = distributionright = 1;
}

if ((!copyright || !distributionright) && copy() && distribute()) {
        bank_balance[holder_of_rights] += huge_amount;
        bank_balance[you] -= huge_amount;
        if (negligence >= gross && judge >= strong)
                goto jail;
}
```

Please do not forget:

- Software is protected by copyright law.
- Whoever wants to copy software needs a permission (license).
- Copying software without license violates copyright law and may entail serious consequences.

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What are the reasons for and advantages of Open Source?

- For several today's requirements **the only available software solution** is licensed as Open Source.
- Open Source software **cannot be discontinued**.
- Distributed software development by otherwise unrelated contributors is easily possible with Open Source – a prerequisite for large projects.
- Open Source software may be of better quality.
- Open Source software may be less expensive.

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From contract violation to criminal offense

- Failure to comply with the license obligations leads to the withdrawal of the granted rights.
- A failure to comply with a contract, thus, automatically becomes an infringement of law
  - for which the management is personally liable, and
  - which constitutes a violation of the company's **compliance** commitment.

What is company compliance?

- Compliance with legal provisions and regulations
- Compliance with standards
- Compliance with ethical requirements

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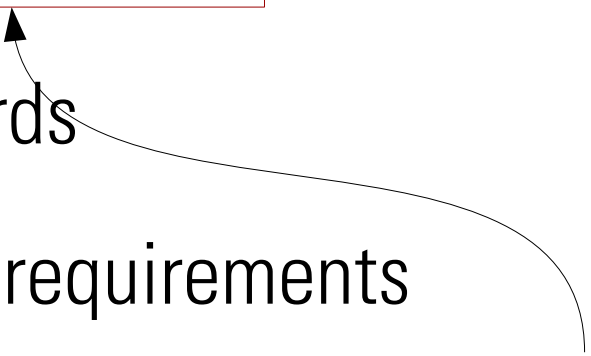

Copyright Law

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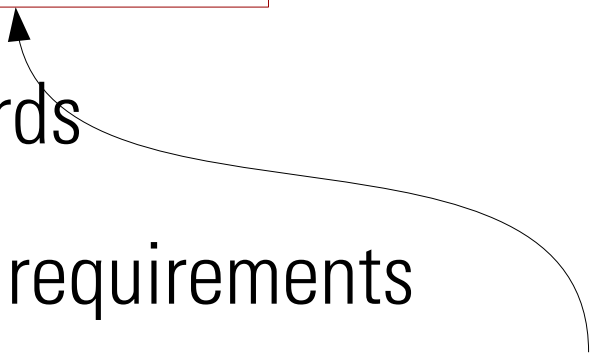

Rule of license conformance:
"To prevent copyright law infringement, there is the general rule that any protected work may not be copied and distributed, unless a valid license that permits doing so was granted by the holders of rights."

What includes license conformance?

- Obligation to know the various license types
  - License obligations, license compatibility
- Establish procedures to prevent license violations
  - Employ and instruct personnel
- Know the possible legal consequences
  - Copyright law infringement is a criminal act.
  - Authors have rights.
  - The management is personally responsible.

Who is responsible in a company to take care that copyright law is obeyed?

- Not any employee.
- But the management!

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COMPLIANCE IS A MATTER OF THE BOSS!

Management duties with respect to compliance

- Establish procedures to ensure compliance
- Train employees
- Verify acceptance of the procedures
- Arrange external audits

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Input/Output gateways

Mastering legal risks of Open Source

- Special requirements of the „Output gateway“:
  - License scanning (which licenses are in use?)
  - Determining the license obligations
  - Using checklists to ensure that license obligations are correctly observed
  - Conduct an official License Compliance Audit (LCA)
- General action:
  - Implementation of the OpenChain curriculum

License obligation checklists

- Create a list of license obligations for every license in use.
- OSADL License Obligations Checklists project:
  - About 10 language constructs such as YOU MUST, YOU MUST NOT
  - About 25 actions such as *Forward*, *Modify*, *Provide*
  - About 50 terms such as Copyright notice, License text

OSADL License obligation checklists: BSD 2-Clause

USE CASE Source code delivery

- ☐ **YOU MUST NOT** *Modify* Copyright notices
- ☐ **YOU MUST NOT** *Modify* License text
- ☐ **YOU MUST NOT** *Modify* Warranty disclaimer

USE CASE Binary delivery

- ☐ **YOU MUST** *Provide* Copyright notices In Documentation OR Distribution material
- ☐ **YOU MUST** *Provide* License text In Documentation OR Distribution material
- ☐ **YOU MUST** *Provide* Warranty disclaimer In Documentation OR Distribution material

OSADL License obligation checklists: GPL-2.0-only

USE CASE Binary delivery

- ☐ **YOU MUST** *Highlight* Copyright notice
- ☐ **YOU MUST** *Highlight* Warranty disclaimer
- ☐ **YOU MUST NOT** *Modify* License notices
- ☐ **YOU MUST NOT** *Modify* Warranty disclaimer
- ☐ **YOU MUST** *Provide* License text
- ☐ **YOU MUST** *Provide* Delayed source code delivery
- ☐ **YOU MUST** *Provide* Written offer
  - ☐ **ATTRIBUTE** Duration 3 years
  - ☐ **ATTRIBUTE** To Any third party
  - ☐ **ATTRIBUTE** No profit
- ☐ **YOU MUST NOT** *Impede* Usage

OSADL License Compliance Audit (LCA)

Audited and possibly certified:

- Linux kernel
- C library
- Relevant product, license and company documents including terms and conditions

Audited, but not certified:

- Proprietary user-space programs

Whenever a problem is discovered:

- Analysis of the underlying process, recommendations for improvement

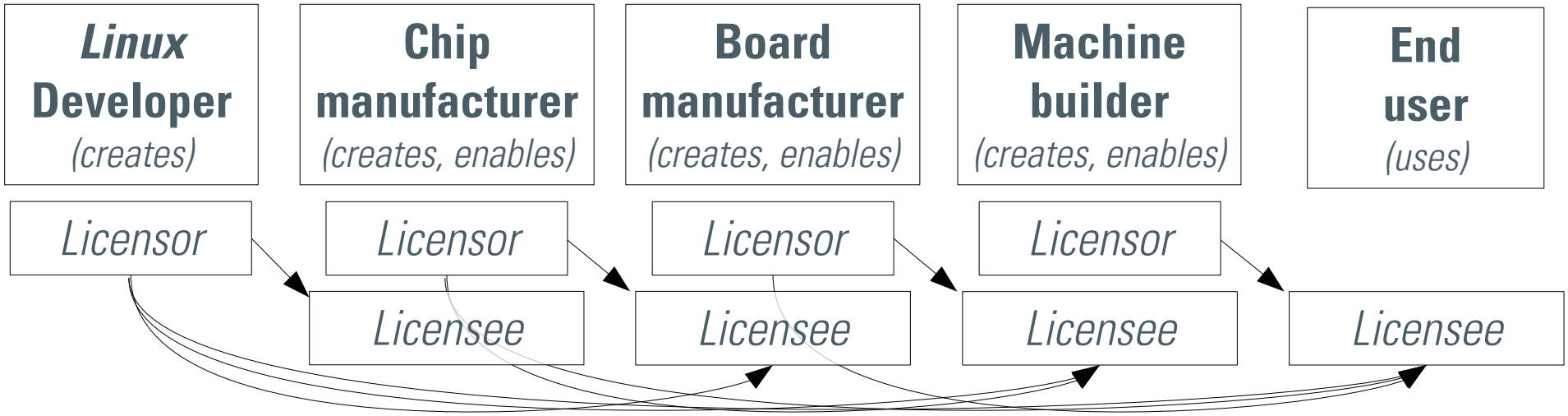
Supplier License Compliance Audit (SLCA)

Online questionnaire:
https://osadlmember:h3bAIp5bM@www.foss-slca.org/

Audited topics:

- Any company process that may be relevant for license compliance

OpenChain initiative of the Linux Foundation



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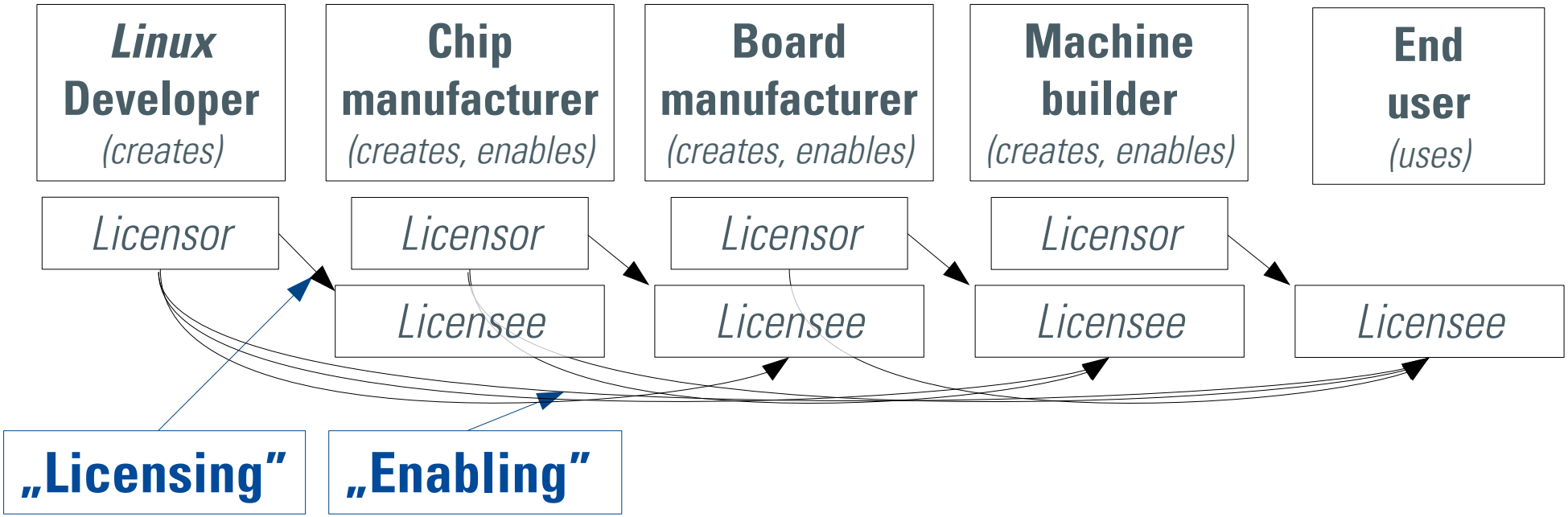

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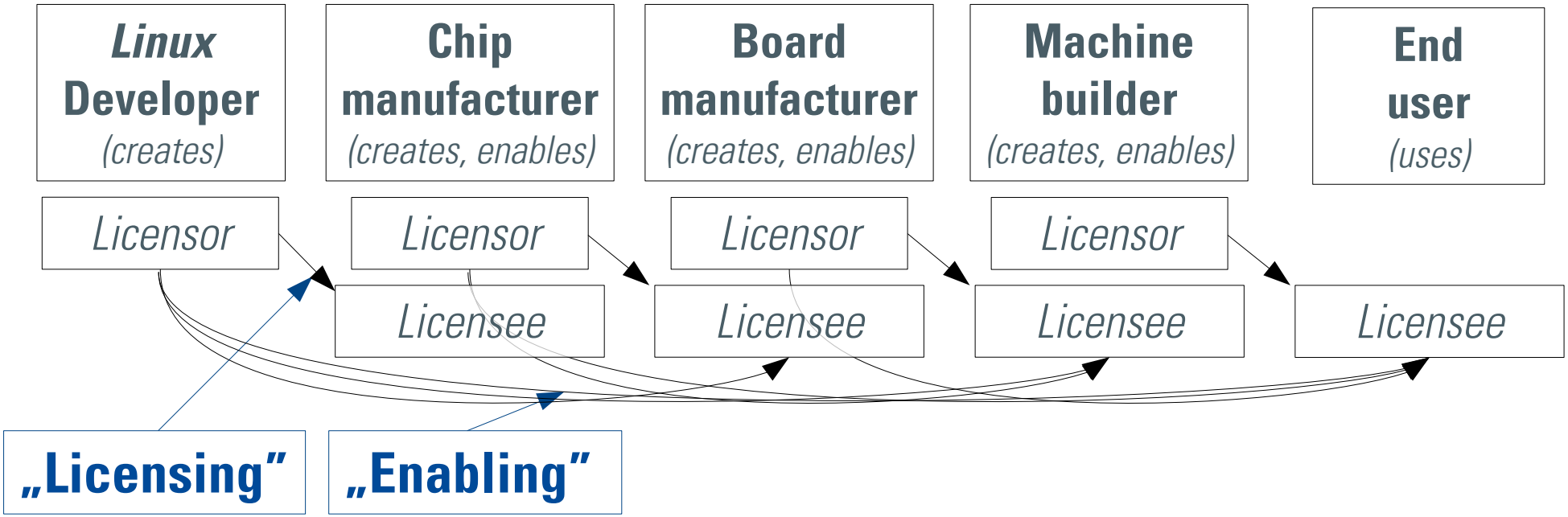

- The general concept behind the OpenChain initiative is based on the assumption that a large part of the license obligations would not need to be checked every time at the output of one and the input of another trade partner, if all participants of the trade chain trusted each other.

OpenChain initiative: „Chain of trust“

- The initiative intends to provide rules and procedures to obtain license compliance throughout the entire trade chain.
- For the time being self-assessment: https://certification.openchainproject.org/
- Later probably – similar to ISO 9001 – a certificate will be issued after conducting an audit by external auditors.
- Specs and curriculum (version 1.1) available on the Internet:
  - https://wiki.linuxfoundation.org/_media/openchain/openchainspec-current.pdf
  - https://wiki.linuxfoundation.org/_media/openchain/openchainspec-1.1.German.pdf
  - https://wiki.linuxfoundation.org/_media/openchain/openchain-curriculum-for-1-1.pdf

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- **Are there any economic risks and, if so, how can they be mitigated?**

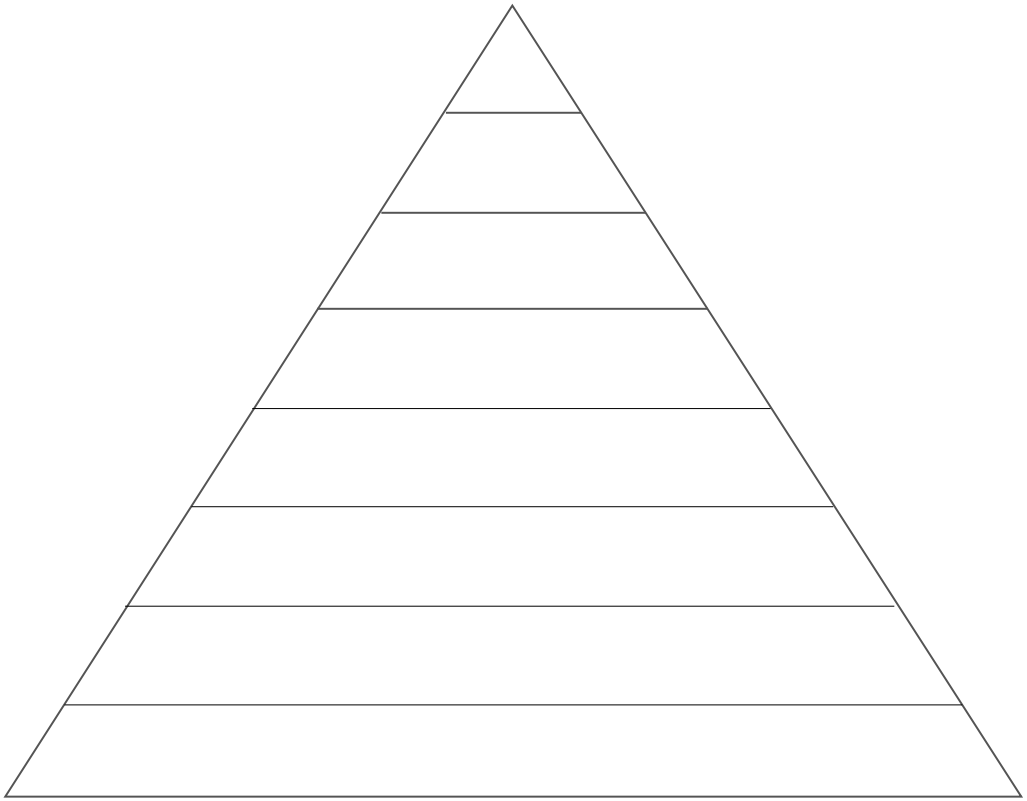
Economical risk of Open Source

- Possible risks when a particular Open Source software is used:
  - Legal risks are nearly always economical risks
  - „Inadvertent“ publication of intellectual property
- Possible risk when a particular Open Source software is not used
  - Redundant investment into unnecessary parallel software development

Mastering economical risks of Open Source

- If external Open Source software is going to be combined with a company's own software and the license of the external software imposes disclosure obligations of the combined work, the company's own software must not contain differentiating know-how.
- What is differentiating know-how?

Is Open Source with disclosure obligations suitable for a given project part?



The pyramid of differentiation

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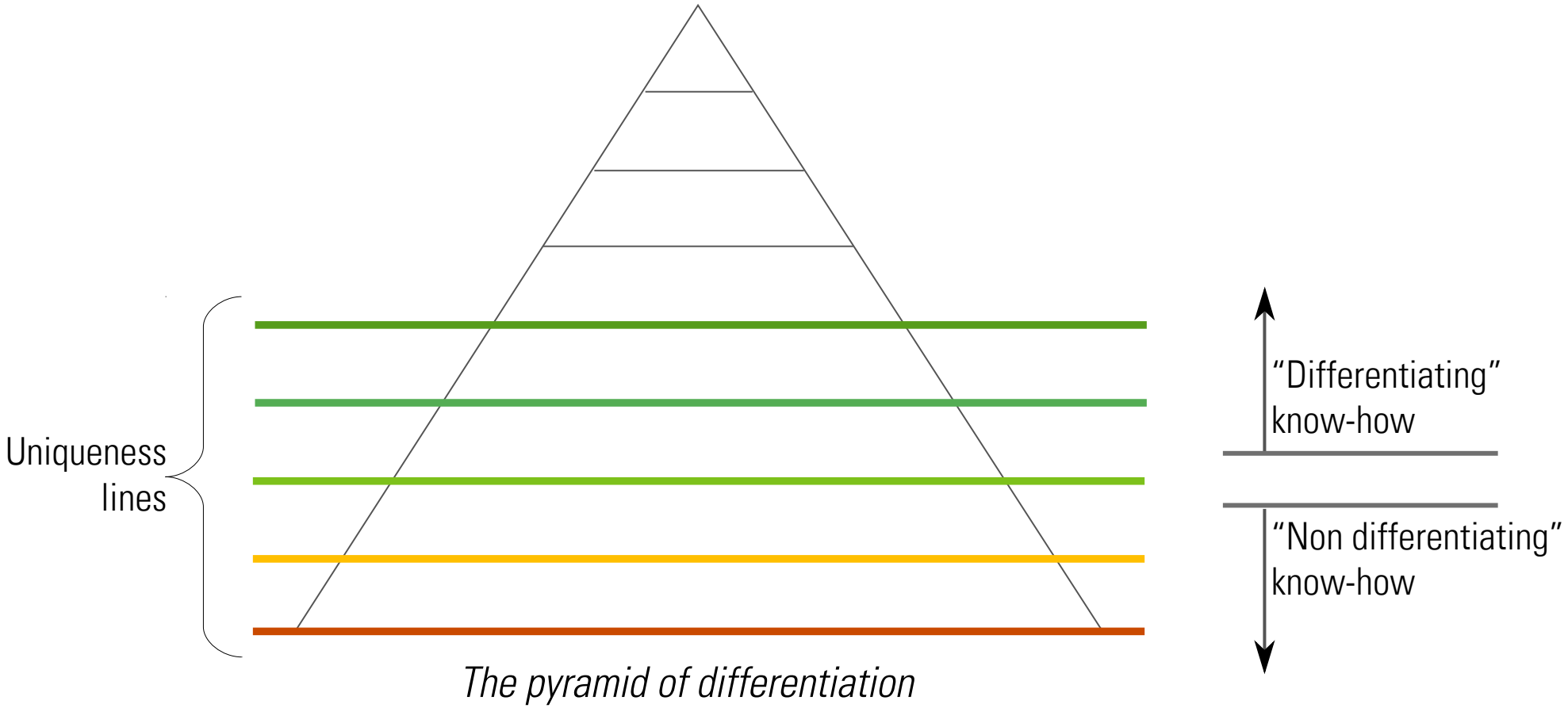

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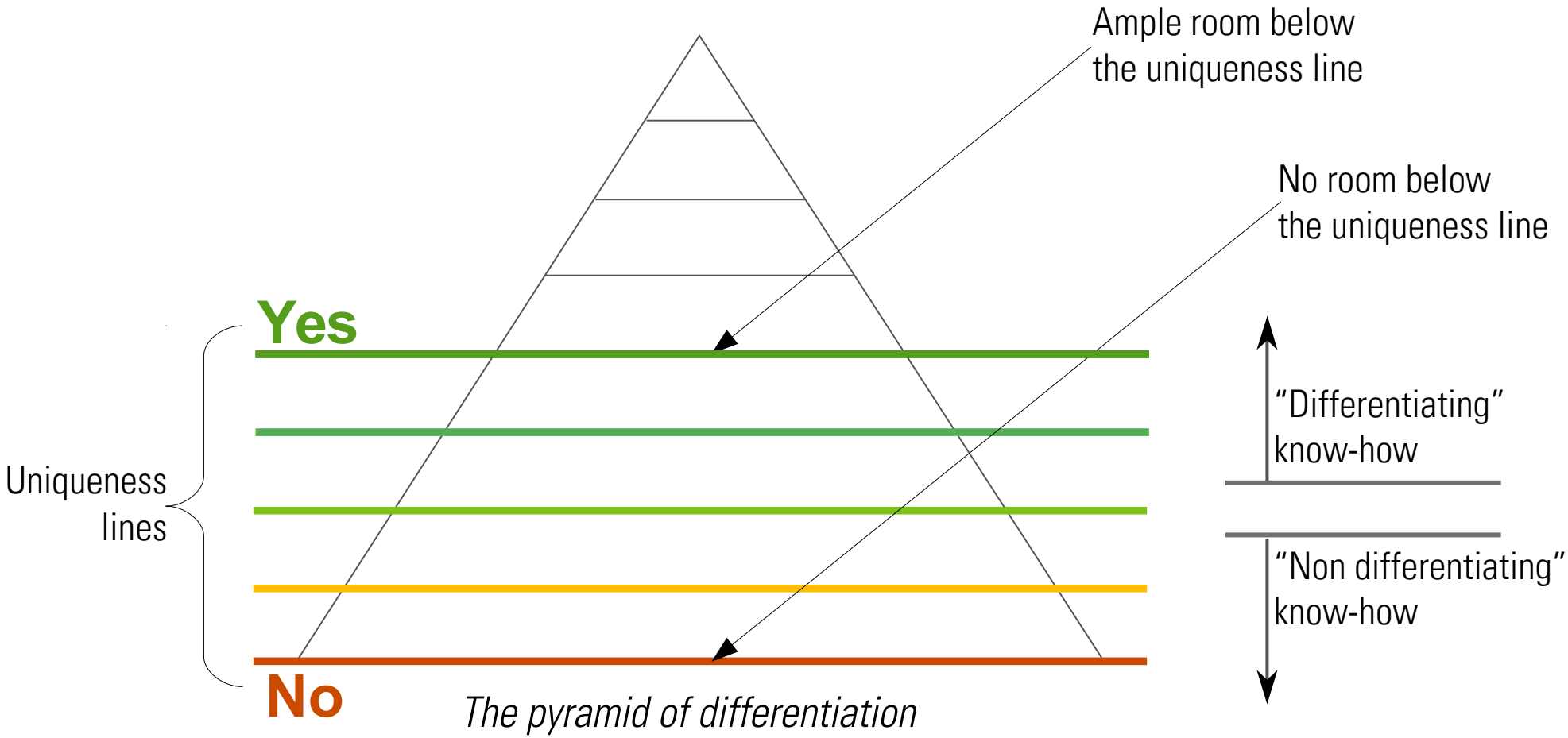

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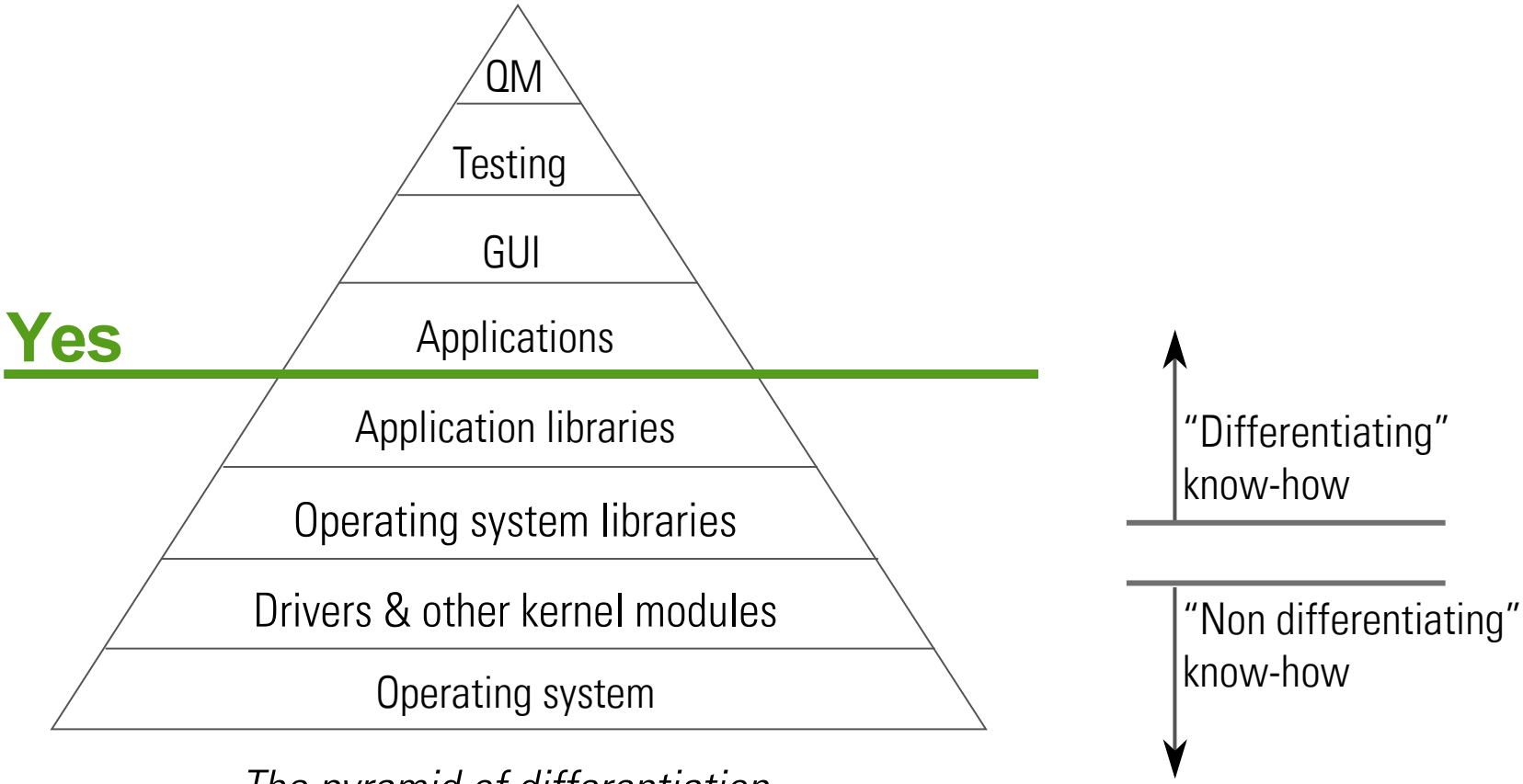

The pyramid of differentiation
Example: Machine software

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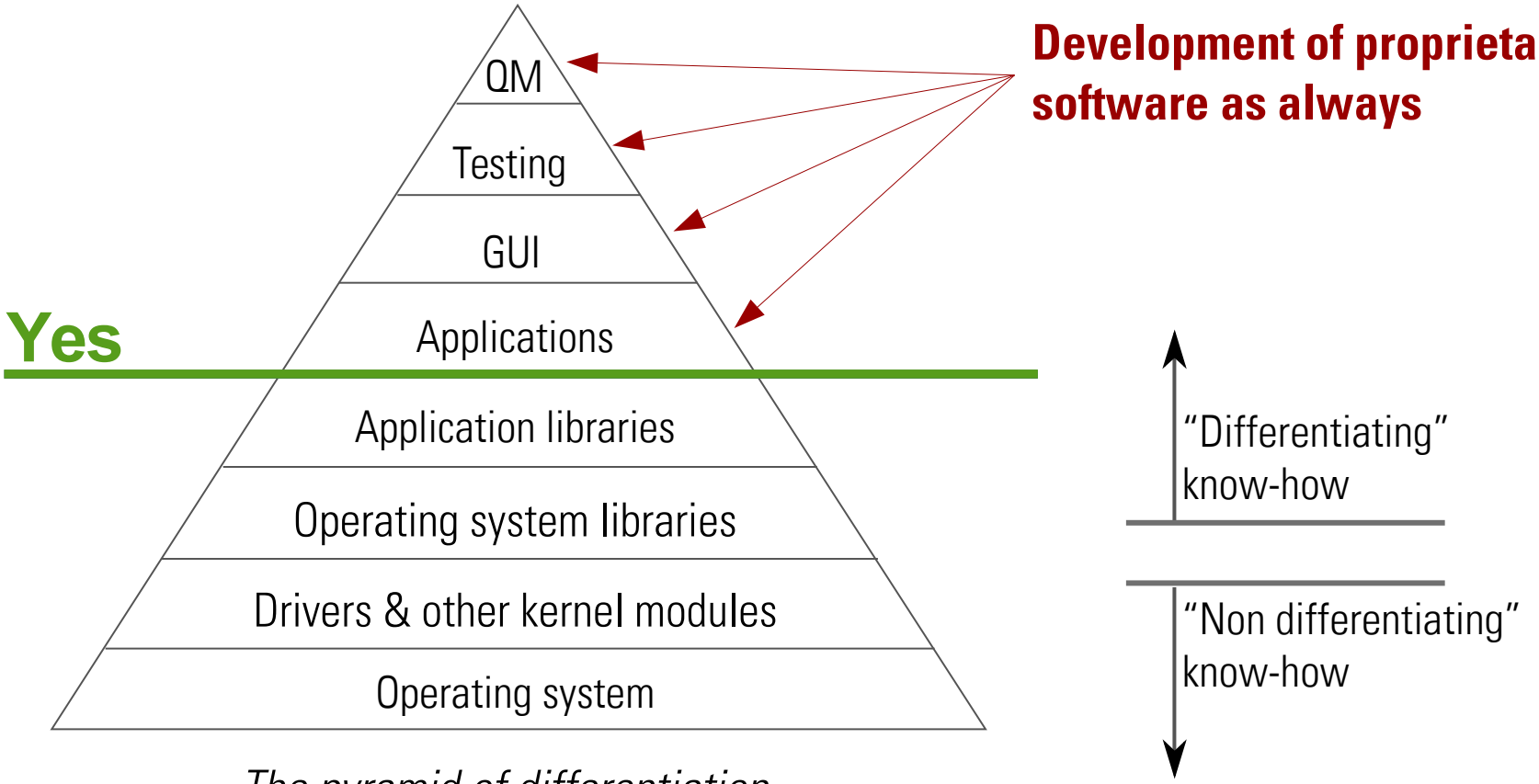

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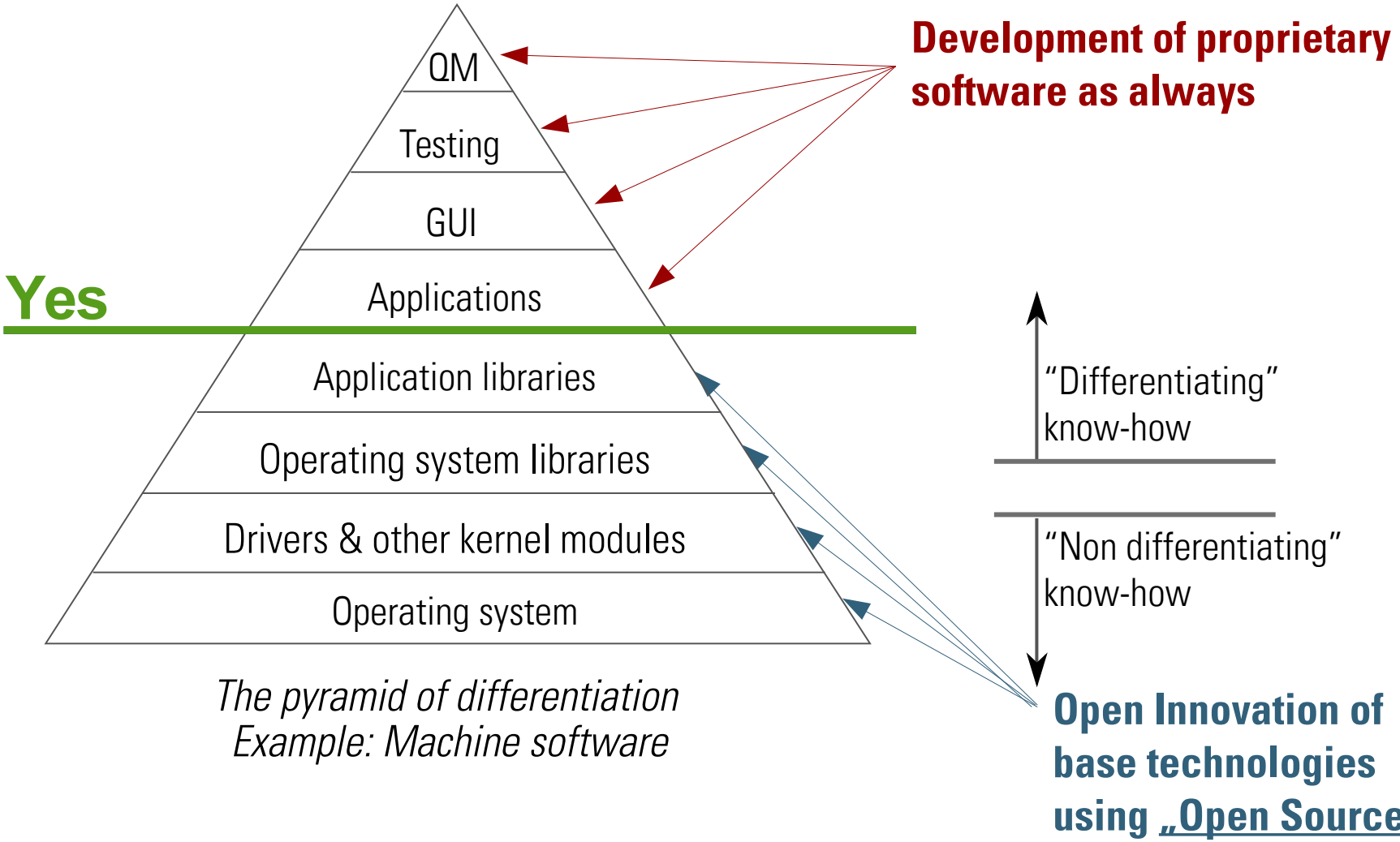

The pyramid of differentiation
Example: Machine software

Open Source software is ...

… successful, since it is economically successful.

… involves – same as proprietary software – legal risks that can be mastered.

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… easier to use and to master, if the company decides to join an *appropriate organization* where practical recommendations and processes are developed and shared among participants.