

Automotive Technology

Low Level Control for Autonomous driving

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Context of use: Education
Level of education: Bachelor

Technology Impact Cycle Tool

Automotive Technology

Impact on society

What impact is expected from your technology?

This category is only partial filled.

What is exactly the problem? Is it really a problem? Are you sure?

Autonomous Driving Mobility. Easier Mobility for all with no need to operate a vehicle very frequently, achieve a license or with a disability. This will allow more independent individuals. This will cause an increase of vehicle users, but what if all cars are autonomous then it will be easier for all and keep the cars running for longer as they are operating as required by the manufacturer and no crashing due to poor operation of a vehicle

Are you sure that this technology is solving the RIGHT problem?

This question has not been answered yet.

How is this technology going to solve the problem?

This question has not been answered yet.

What negative effects do you expect from this technology?

This question has not been answered yet.

In what way is this technology contributing to a world you want to live in?

This question has not been answered yet.

Now that you have thought hard about the impact of this technology on society (by filling out the questions above), what improvements would you like to make to the technology? List them below.

This question has not been answered yet.

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Hateful and criminal actors

What can bad actors do with your technology?

This category is only partial filled.

In which way can the technology be used to break the law or avoid the consequences of breaking the law?

This will have the routes logged in the system, home, work and any other points of frequent use. This can be used against the owner by knowing when they are not home, or where they are to cause harm. This technology can be used to transport illegal materials and nobody would be caught transporting.

Can fakers, thieves or scammers abuse the technology?

This question has not been answered yet.

Can the technology be used against certain (ethnic) groups or (social) classes?

This question has not been answered yet.

In which way can bad actors use this technology to pit certain groups against each other? These groups can be, but are not constrained to, ethnic, social, political or religious groups.

This question has not been answered yet.

How could bad actors use this technology to subvert or attack the truth?

This question has not been answered yet.

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

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Privacy

Are you considering the privacy & personal data of the users of your technology?

This category is only partial filled.

Does the technology register personal data? If yes, what personal data?

It can be used to assemble personal data by logging where the person is and where he drives and when.

Do you think the technology invades the privacy of the stakeholders? If yes, in what way?

This question has not been answered yet.

Is the technology is compliant with prevailing privacy and data protection law? Can you indicate why?

This question has not been answered yet.

Does the technology mitigate privacy and data protection risks/ concerns (privacy by design)? Please indicate how.

This question has not been answered yet.

In which way can you imagine a future impact of the collection of personal data?

This question has not been answered yet.

Now that you have thought hard about privacy and data protection, what improvements would you like to make? List them below.

This question has not been answered yet.

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Human values

How does the technology affect your human values?

This category is only partial filled.

How is the identity of the (intended) users affected by the technology?

The technology can bring people closer if it was difficult in the first place to reach each other. Allows them to join on planned outing that they could never get to or need someone else's help to get there

How does the technology influence the users' autonomy?

This question has not been answered yet.

What is the effect of the technology on the health and/or well-being of users?

This question has not been answered yet.

Now that you have thought hard about the impact of your technology on human values, what improvements would you like to make to the technology? List them below.

This question has not been answered yet.

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Stakeholders

Have you considered all stakeholders?

This category is only partial filled.

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by answering these questions.

Name of the stakeholder

RDW

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Name of the stakeholder

Fontys ICT

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Name of the stakeholder

Fontys Automotive

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

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Name of the stakeholder

Customers

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Name of the stakeholder

Suppliers

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Name of the stakeholder

Manufacturers

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Name of the stakeholder

Bas Gelijns

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

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Are you going to take this stakeholder into account?

No

Name of the stakeholder

Peter Te Have

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Name of the stakeholder

Edwin van den Oetelaar

How is this stakeholder affected?

-

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Did you consider all stakeholders, even the ones that might not be a user or target group, but still might be of interest?

-

Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.

This question has not been answered yet.

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Data

Is data in your technology properly used?

This category is only partial filled.

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?

Not sufficient data to make the technology run smoothly can cause serious issues in computation and actions the vehicle will take. This should be taken in account in order for the safety of the system to be able to stop in an emergency and to stop quickly without causing serious harm or more harm than already has happened

How does the technology organize continuous improvement when it comes to the use of data?

This question has not been answered yet.

How will the technology keep the insights that it identifies with data sustainable over time?

This question has not been answered yet.

In what way do you consider the fact that data is collected from the users?

This question has not been answered yet.

Now that you have thought hard about the impact of data on this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

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Inclusivity

Is your technology fair for everyone?

This category is only partial filled.

Will everyone have access to the technology?

This question has not been answered yet.

Does this technology have a built-in bias?

This would be a very expensive technology this would be more widely available in richer countries. Politics can also play in this as you need to pass laws to allow autonomous driving within the country/state

Does this technology make automatic decisions and how do you account for them?

This question has not been answered yet.

Is everyone benefitting from the technology or only a a small group?

Do you see this as a problem? Why/why not?

This question has not been answered yet.

Does the team that creates the technology represent the diversity of our society?

This question has not been answered yet.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.

This question has not been answered yet.

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Transparency

Are you transparent about how your technology works?

This category is only partial filled.

Is it explained to the users/stakeholders how the technology works and how the business model works?

It is a physical thing the user can experience. It would have intuitive controls to make it easier to set up and start the system. The user will only need to give a destination and then the system can take over.

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?

This question has not been answered yet.

Is it possible to file a complaint or ask questions/get answers about this technology?

This question has not been answered yet.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?

This question has not been answered yet.

Now that you have thought hard about the transparency of this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

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Sustainability

Is your technology environmentally sustainable?

This category is only partial filled.

In what way is the direct and indirect energy use of this technology taken into account?

This would be used on vehicles for the future so to be able to be more sustainable the vehicles should be fully electric or with a sustainable transmission

Do you think alternative materials could have been considered in the technology?

This question has not been answered yet.

Do you think the lifespan of the technology is realistic?

This question has not been answered yet.

What is the hidden impact of the technology in the whole chain?

This question has not been answered yet.

Now that you have thought hard about the sustainability of this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

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Future

Did you consider future impact?

This category is only partial filled.

What could possibly happen with this technology in the future?

Driving would cease to exist as your vehicle will just transport you like a bus. Safer roads for pedestrians, cyclists and other road users. More time used for the more valuable things rather than spending the time driving and focused on the road

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one utopian scenario.

This question has not been answered yet.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one dystopian scenario.

This question has not been answered yet.

Would you like to live in one of this scenario's? Why? Why not?

This question has not been answered yet.

What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?

This question has not been answered yet.

Impact Improvement: Now that you have thought hard about the future impact of the technology, what improvements would you like to make? List them below.

This question has not been answered yet.