P5
REFLECTION

*Schiphol 2050: facilitating
the cybercrime threat, a
penitentiary facility*
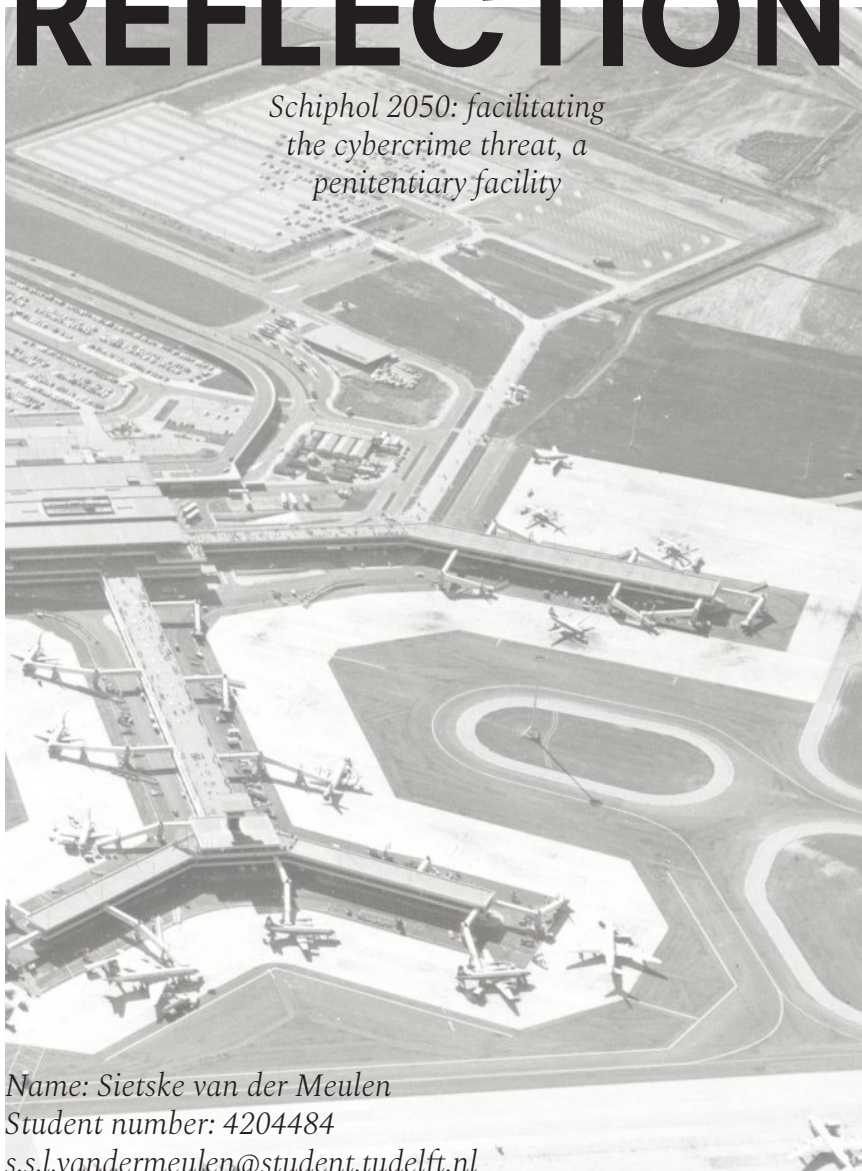
Name: Sietske van der Meulen
Student number: 4204484
s.s.l.vandermeulen@student.tudelft.nl

Schiphol airport airside

Project Description

A cybercrime prison is a new typology within the landscape of justice and security. A penitentiary facility to correct, rehabilitate and punish the cyber criminals. Taking into account the criminal, the crime and the concept of punishment: taking away something they value. For this type of criminal there are two things valuable: digital and physical freedom.

The question is how is; a penitentiary facility for cybercriminals different from a traditional facility?
Within traditional crime, the crime is committed in physical space, and thereby the punishment is suspension from this space. With cybercrime this Is more complicated, here a person commits a crime in digital cyber space. The effect of this crime can manifest itself anywhere, independent of a physical location. This shift gives the opportunity to rethink punishment and imprisonment.

Relevance

"A new commodity spawns a lucrative, fast-growing industry, prompting antitrust regulators to step in to restrain those who control its flow. A century ago, the resource in question was oil. Now similar concerns are being raised by the giants that deal in data, the oil of the digital era." The Economist, 06.05.2017

In short:
Increasing data value =
Increasing criminalization =
Increasing relevance for a cybercrime penitentiary facility

Due to fast growing technology and social network usage, more and more personal data is uploaded. Resulting in more data usage our daily life's. Data is slowly becoming more valuable than oil. Additionally, digitalization creates the ability to enjoy the facelessness of cyber space and to emancipate action of physical place. The combination of these two factors makes it more lucrative be criminalized. To elaborate on this I would like to refer to the formula to calculate risk: probability x impact = risk.

Data is the new Oil

In this case the probability refers to the increased chances of committing such a crime. As a side effect of digitalization, we enjoy the facelessness of cyber space and the emancipation of physical place to act and live. Easier to get away with it. The impact refers to the dependence of humans on technology and data. The more we depend on it, the more vulnerable we grow.

There are two sides on the one hand the control of our data, who owns it and is allowed to use it? and on the other hand the prosecution of the abuse of data. This is a specific target group, different from criminals operating in our physical realm. In this project I research the punishment of criminals of the digital realm, depending on their motivations and type of crime.

All in all, what makes my research and project particularly relevant is the still increasing value of data and thereby its increasing criminalization.

P1 collage: Digitalization and automation of publics space

Project Topic & Studio Topic

The design topic of the studio Complex Projects is Amsterdam 2050, more particular the vision for Schiphol in 2050. This means not only thinking of functions and typologies, but also how do these change in the future. The research started out on automation and digitalization of public space at Schiphol. Complex Projects works with the strategy of using a narrative to create arguments for a design. Quickly, the realization came that Schiphol has an excellent system for guiding flows from A to B. On the other hand, Schiphol being a secured facility, there are many restrictions of this public realm. The initial research question was: what is the impact of digitalization and automation on the public space of Schiphol? Researching the interaction between the globalizing effect of digitalization with the increasing efficiency of the local automation.

According to the studio method the theoretical topics of power, restrictions and security, automation and digitalization needed to be turned into architectural topics. Parallel to more research into digitalization and data, I was searching for an architectural typology to elaborate on.

A topic where these themes relate to is a prison or penitentiary facility. Here the restriction of public space taken into the extreme. Together with the realization on how little we know about how data works but moreover the difficulty of securing it. I will come back to this later, the topic of a cyber prison came into being. Before making this decision, research was done into international and cyber institutes (International criminal court and Europol) in the Netherlands and Europe.

LOCAL SLOW		GLOBAL FAST
LOW TECH PHYSICAL		HIGH TECH DIGITAL
	NOW	

a.   b.   c.   d.   e.
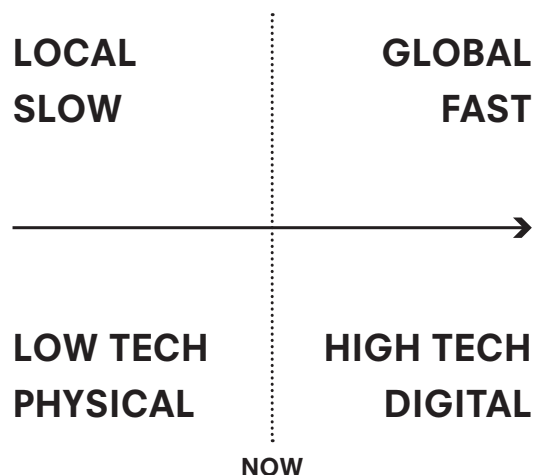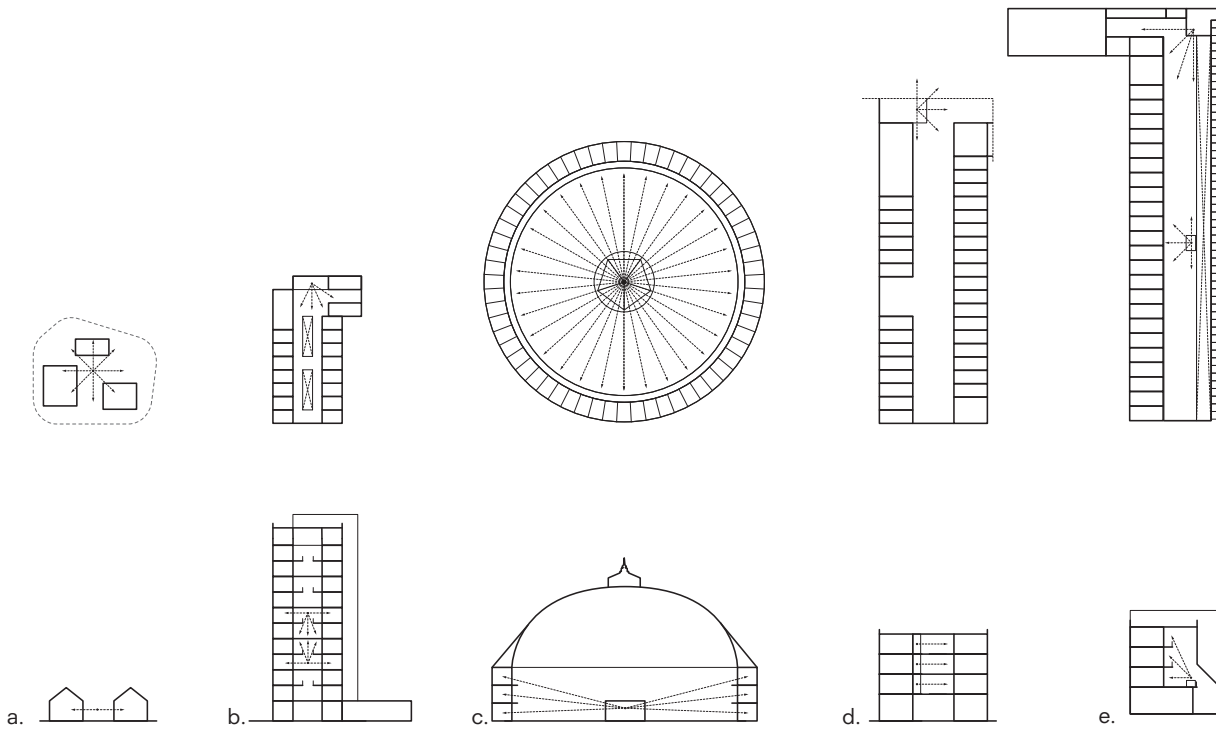
Typological study of penitentiary facilities

Research Approach & Methodological Line of Inquiry

Research in the Complex Projects graduation studio is done in twofold: research into socio-economical (hard and soft data) and spatial research (space data). Even though the research includes urban analysis and the study of precedents, it mainly focuses on wider societal and global topics.

The theme of Schiphol 2050 relies on prediction of the future. Resulting in research not merely focused on the past and the present, but extrapolating this data into a future vision. Like the studio, my research is done in twofold, on the one hand the research into digitalization and cybercrime, on the other hand research into penitentiary facilities (historical, organizational, typological, etc.). The research leads to a broader knowledge of the project and the spatial requirements (volume, surface, program etc.). On the one hand I researched the prison typology to acquire insight in the functional organization. Since the topic includes the element of predicting the future, it also requires educated guesses. The research

lead to the fundamentals of the design project, the programmatic organization, architectural language, spatial elements and above all an answer to the research question; What role can Schiphol (and it's no man's land) play in facilitating the increasing threat of cybercrime in the future?

The realization on how little we know about data, but moreover how hard it is to secure, played an important role to the formation of a research question. Data is not a very tangible topic, it is a system

Analyzed & organized information
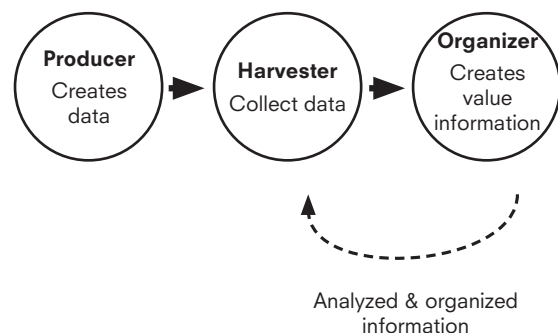
Conclusion of research into data and digitalization

where the offence is so much easier than defense. Weaknesses in the system, so called zero days, are basically secrete back doors in your computer, impossible to lock because there is no key, yet.

The research is done according to the Complex Projects format, it consists of three parts. First the hard data research, mapping factual information of the site (history, land use, landscape, transport etc.), done through Internet and statistical data. After this comes the soft data, researching a chosen topic, usually a phenomenon related to the site. Third is the space data research, this part is a spatial research of historical and contemporary typologies. Even though Complex Projects Studio has a very rigid format, the content is completely open provided that there is a valid reasoning behind it.

The goal of the studio is to filter all the research you do, into a set of useful variables and make a coherent story as an argumentation for your design; the goal is to create a narrative. Every phase (hard data, soft date and space data) I gathered information (evidence), continued by filtering and interpretation the information and by structuring, organizing and turning it into a story, a narrative.

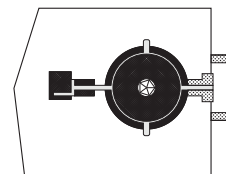The process of turning research into architectural project roughly happens like this:

1. Research brings something into view
2. Interpretation of information
3. Creation of Narrative according to acquired information
4. Determining the cultural consequences
5. Determining the spatial consequences
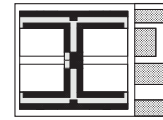
PI Alpehn aan den rijn
31.000 m²
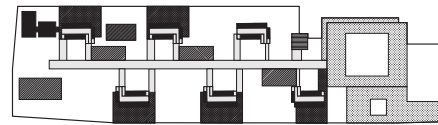
PI Over Amstel
85.000 m²

PI de Berg
17.000 m²

PI de Schie
25.000 m²

Programatic research

Ethics & Design

"Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do. On the one hand the standard of right and wrong, on the other the chain of causes and effects, are fastened to their throne. They govern us in all we do, in all we say, in all we think." Jeremy Bentham, 1781

Jeremy Bentham believed that peoples actions are determined by the balance of pleasure and pain. To understand this balance, he came up with the hedonistic calculus. When it comes down to committing crime people will weigh off the possible pleasures gained from committing the crime against the possible pain from punishment, and act accordingly. This fascinated me, this suggests that free will is debatable and human behavior is a result of variable (experiences in life, and lessons learned). This is a years old discussion, what is crime? Is there free will in crime or is it a consequence of variable in a person's life. Or is criminal behavior an illness to be cured?

Within the theme of punishment, power and penitentiary regimes there are many more ethical dilemmas. Why do you punish? With what purpose? And for whom? Is it to incapacitation of the perpetrator, to rehabilitate the perpetrator, is it to for satisfaction of the victim and its relatives, or is it to scare of potential perpetrators and thereby prevent crime?

There are two trends within the legal system. Judges choose more often for alternative punishments (such as community service or in the Netherlands TBS). Another trend is to punish more severely, longer sentences. This serves only the victim and relatives, hardly anyone ever gets better from imprisonment, on the contrary they probably pick up tricks from fellow detainees. Furthermore, it is a financial burden for society to carry.

It is important to not only restrict their physical movement, but also add facilities for rehabilitation, resocialization and restoration in the regime. For example: detainees are treated with respect, help with finding jobs, house etc. After prison, and invest in daily schedule and rhythm (sleeping, working, eating etc.).

This directly relates to the question of how uncomfortable should the punishment be? Is the physical restriction of a prison enough, or is more punishment needed? An example I find striking is the right to privacy. Cybercrime is essentially an invasion of privacy and private data. Are you entitled to your own privacy if you take away someone else's? Private data is information that can only be accessed by people who have a legitimate reason to access it. Private data must be protected from unauthorized access and to prevent its misuse. If it is accessed and/or abused, does the perpetrator have right to privacy or no, a sort of eye for an eye principle.

Within this discussion there are in my opinion two direction. The first is making the project a dystopic or utopic narrative, to give a critical opinion about the current situation and trends. The other direction is a more realistic one, taking the abstract notion of cyber and turning it into something tangible. Both direction can be successful as long as they are developed consistently. This project is developed in the more realistic approach, trying to capture the consequences of digitalization and turning it into an architectural project. An example of this is the surveillance system. The basis for the surveillance is a system as much independent of digital technology as possible. Taking into account the panoptic principles and the current developments in society, leads to a network of cavities in the walls; to an surveillance system independent of digital technology.