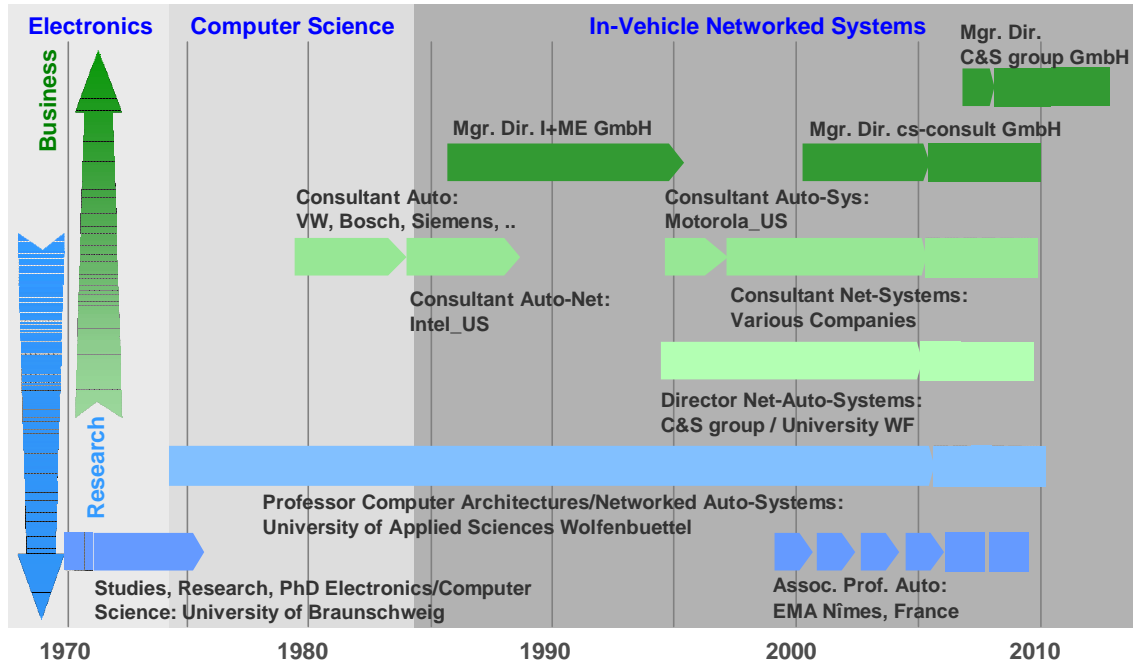


# Wolfhard Lawrenz Experience - University - Business



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- Personal Characteristics
  - Stress
  - High workload
  - More than 40 hours/week
  - Dedicated to the desire to win
  - Convinced of the own ideas
  - Live with high high's and low low's – and don't give up
  - Charisma, aura, convincing person
  
- Make money of an idea
  - Get customer(s)
    - Why should a customer believe in you surviving and thus doing
      - Maintenance
      - Proliferation
 Because a customer does an important investment into the future, when buying in into your product
    - The customer does not find you – you must run to find the customer
  - Marketing is a must
    - Personality required for
      - Written presentations
      - Oral presentation
    - Whom to convince by presentations
      - Technical persons?
      - Decision makers on money think differently
      - Look through the eyes of your buyers not through your own
        - Listen to the customer
  - Marketing tools:
    - Conference presentations
    - Standardization committee cooperation
    - Brochures, web
    - Customer visits & presentations
    - Customer follow ups
  - Market analysis
    - How does the product fit into the market
    - Competitors
    - 3<sup>rd</sup> party products will be enhanced by your product
  
- Product characteristics
  - Development services are a dangerous product
    - Difficult to make money with
    - Customers either want to have too much or too low capacity from you
    - Man-power is cheap some where else – globalisation
    - Who owns the developed ideas?
      - The customer
      - You
      - Both
    - May direct you to your next products
    - Takes your breath away for working on your own products
      - Your products must be on the market at the right time – not too late
  - Good mix of development services and own products 50:50 (?)
  - Clear specification
  - Differentiator
    - Not sales price

- Technical characteristics
  - What is your own IP
    - How to protect
    - How to proliferate to the future
  - Sound cost calculation
    - Development costs
    - Maintenance costs
    - Proliferation costs
    - Marketing costs
      - Partner distribution channel costs
    - Reproduction costs
- Market behaviour
  - Inherent MUST to grow
  - Growing synchronous with the market
    - A high speed growing market for your idea might kill you, if you are unable to grow correspondingly --> solution
      - Get additional money into your company
      - Sell your company
  - Product life cycle curve
    - Take the market time window
    - Technology push is difficult – market pull is better
  - Product proliferation
  - Product protection
- What to sell
  - 1. you sell your own power (as an employee or 1 man-show)
  - 2. you sell the products of your own company
  - 3. you sell your company
    - worth of a company
      - Heidelberger rule
      - Like the Spanish bazaar
      - Your name
        - Your customers
        - Your market
        - Your products
      - The knowledge within your company
      - Patents
      - Buildings, installations, devices, tools,
- How to get started
  - Think big
  - Do it right first time
  - Work for an employer to
    - learn about market niches
    - Learn about customer needs
    - Know potential customers
    - Find out if your potential customers
      - admire your competence
      - trust in you
    - → get known by your potential future customers as THE solution to his problems
  - How to get money to start and survive the first years

## Appendix: Example Calculation

### Cost Calculation for Tool Development

cost factor	amount	unit	cost/unit [EUR]	cost [EUR]
<b>0. Man power Costs per week</b>	40,00	hours/week	88	3.520,00
<b>1. Development</b>				134.600,00
1.1 development of tool specification, tool concept	15,00	man*weeks	3.520	52.800,00
1.2 Implementation of tool specification: - development of tool suite hardware & software	120,00	man*weeks	3.520	422.400,00
1.3 re-use of existing knowledge and software, ...	105,00	man*weeks	3.520	-369.600,00
1.4 Implementation of tool specification: - 3rd party hardware - 3rd party software	1,00	tool units	29.000	29.000,00
<b>2. Maintenance</b>				52.494,00
2.1 re-engineering / maintenance / modifications / ... for the first 6 months	15,00	% of above cost for development and tool suite hardware		20.190,00
2.2 maintenance hereafter for 3 years	24,00	% of above cost for development and tool suite hardware		32.304,00
<b>3. 3rd party support</b>				-33.000,00
<b>4. Total</b>				<b>154.094,00</b>

\* Supervision Software -tool Case description (Scripts)  
\* Generation of Pulses with Generator  
\* Semi Automatic Verification of tools  
\* Remote Control of all Parts  
\* special HW  
\* tool of the System  
\* Documentation

\* PC mit xyz und abc Interface + Development SW  
\* Digital Oszilloscope  
\* Power Supplies (with remote control) Power Supplies (with remote control)  
\* Sepcial HW

### Cost Calculation for Tool Application Process

cost factor	amount	unit	cost/unit [EUR]	cost [EUR]
<b>1. Fix costs</b>	40,00%	of dev & maint	154.094	61.637,60
<b>2. Variable costs</b>				
2.1 - number of applications in 3 years	20,00			
- tool suite 3rd party devices costs	6,00	tools per suite/ 1year	29.000	32.222,22
2.2 - man power cost per application	2,50	man*weeks		
2.3 - total cost of tool applications:	50,00	man*weeks	3.520	176.000,00
<b>3. Total cost</b>				269.859,82
<b>4. Net cost per application at</b>	20,00	applications in total		13.492,99
<b>5. Profit</b>	15,00%	of net cost of	13.492,99	2.023,95
<b>6. Sales price</b>				<b>15.516,94</b>

### Cost Calculation for Tool Suite

cost factor	amount	unit	cost/unit [EUR]	cost [EUR]
<b>1. Fix costs</b>	60,00%	of dev & maint	154.094,00	92.456,40
<b>2. Variable costs</b>				
2.1 - number of tests suite sales in 3 years	5,00			
<b>3. Net cost per tool suite</b>				18.491,28
<b>4. Profit</b>	10,00%	of net cost	18.491,28	1.849,13
<b>5. Sales price</b>				<b>20.340,41</b>
<b>4. Maintenance costs per year and suite</b>	35,00%	of Suite cost	20.340,41	<b>7.119,14</b>