Entrepreneurship:

- The Standard Way:
  - Idea or Concept.
  - Business Plan.
  - Secure Financing. (Family, Angels, Banks, Public, Government,…)
  - Launch the Venture.

- Bootstrap:
  - Idea or Concept
  - No Money – Financing from Sales
  - A decision: Just do it.
Forces that shape the CAM industry

- New Machining Technology:
  - Multi axis,
  - New materials
  - New tools
  - Miniaturization

- New Operating Systems and tools:
  - .NET
  - Vistas

- Need for Increase Productivity - Automation
  - World Market – Globalization
  - Pressures from low cost labor countries (China, India,…)
  - Increase Demand for quality, design, customization, …

- CAM Market Economic Realities
CAM Market Economic Realities

✦ Very small market ($900 million worldwide) in search of an unlimited research and development funding.

✦ Very High Technology – Extreme Mathematics – Pure Research

✦ Too many “micro” competitors: over 100

✦ Public Companies sell Company shares not CAM systems and can’t invest in CAM development for lack of return on investment.

✦ Private Company: Comfortable Life Style, Short term, Reactive, Insufficiently founded, No external financing and can’t invest in heavy development or technology buyout.
Distribution:

- **O.E.M.**
  - Build ESPRIT into another product (Machine tools or CAD systems). The sale of the other product “pushes” ESPRIT into the field. (typically under another name but best with “ESPRIT Inside” or “Powered by ESPRIT” labels)
  - Close to no marketing, distribution or support cost.

- **Distributors**
  - They have to be expert at creating solutions for customers. Too many fail as they expect customers to buy (they don’t sell – too scattered - super-market approach).

- **Direct Sales**
  - Expensive Marketing, Sales and support cost but great focused expertise.
The Largest Independent CAM Software Company in the World

- Over 200 resellers worldwide in more than 50 countries
- USA, European, and Asian headquarters
  - Los Angeles, Chicago, Charlotte
  - France, Germany, Italy, Japan, China
- More than 15 languages
  - Italian, German, French, English, Chinese, Japanese, and more…
- Over 40,000 Licenses shipped
- 25% Revenue Growth Rate FY 2005
DP Technology Corp.

A company founded on the **Vision** of technology’s potential, powered by **Passion, Committed to Excellence**!

Our mission is to provide CNC programmers with the most powerful CAM software ever.
The Early Days:

- April 15th, 1982: I fly into Los Angeles with one suitcase and $5,000.

- April 29th, 1982: DP Technology is incorporated.
  - A leased car.
  - A local HP office to borrow a computer for the weekend.
  - My new office: a phone booth with 3 phones and a handful of quarters.
  - Several Machine Tool Salesmen Contacts & Some Potential Leads.
  - Less than $500 left.

- We self-finance from Sales - We grow - Cash flow is everything.
First Transitional Crisis:

- Our CAM software supplier cannot (will not) deliver stable software.
- Large Unpredicted Support Expenses.
- Solution: Finding another Supplier or Developing our own Software.
- Origin of the NIH (“Not Invented Here”) Syndrome?
- Origin of the Opportunistic Approach to Sales (Survival Mode)?
Challenges:

- Nothing went according to the plan.
- Several initial orders were canceled due to lack of customer’s financing.
- Growth Issues: changes are “humongous” (the company doubled in size very quickly: 1,2,4,8,16,32… – Everything has to be adapted and re-thought – Processes are very quickly obsolete and must be adapted – new ones must be created).
- 10 decisions must be 10 GOOD decisions.
- People, People, People.
- Overcoming our Engineering/Technologist Culture.
- Developing a Complimentary Business Culture.
Major Blunders and Set-backs:

- Too slow to hire people.
- NIH Syndrome ("Not Invented Here").
- Branched out in expensive complementary sales instead of focusing on expertise (Direct Consequence of our Engineering Culture and NIH).
- Not enough discipline (stick to the plan or change the plan instead of ignoring it).
  - Too Opportunistic (we used to sell THEN develop).
  - Wishful thinking (the market will come back – no need to trim down expenses).
- Too Slow at building a distribution network.
Transitional Crisis:

- We have the best software and we keep losing sales: Technology is NOT the answer.
  - Sales (Marketing, Distribution) are the most important processes. You have to spend in marketing/distribution 100+ times what you are spending in R&D.

- Everything is difficult / Nothing runs smoothly. Problems are everywhere. Depressing to go to work. Too small / No money / No Time to hire and train necessary help and expertise. (the proverbial “no time to sharpen the ax”). I am the problem!!!
  - Re-organization and People Management is the answer. Hiring is a science!
Lessons Learned I:

- FEAR is the enemy.

- Mean & Lean IS Survival.

- "This cannot be done" is not an acceptable answer. It is usually given by people who have never done it and want to keep the status-quo. This is why they do not know that it can be done and why they are not doing it. You do not want them to be part of your team.
Lessons Learned II:

- A Constant Evolution Looking for THE Revolution: I do not fear my competitors’ evolution but I am very worried of disruptive technology (changes of paradigm).
  - Evolution: Constantly improve your business - fine-tune - daily improve products and processes - increase productivity.
  - Revolution: Invent and Develop Disruptive Technology to kill your market before anyone else can do it.

- Sales get it going – Marketing Keeps it growing – Technology is a necessary catalyst:
  - Technology’s lure can be deadly.
  - Marketing and Sales (distribution) are everything.
  - But “Water finds its own level”.
Lessons Learned III:

- People Management vs. Process Management.

- Provide an environment with meaning where everyone is responsible and acts according to the organization’s self-concept and guiding principles.

- “Title and $” vs. Function Promotion: you must beat the “Peter’s principle” (one grows to the level of his/her incompetence).
  - When someone is very successful, do not promote him/her.
  - Promote his/her Title.
  - Give him/her more money.

- Only hire people who can and will replace you. They MUST be better than you.
Lessons Learned IV:

- The day you believe you have “made it” is the day you will fall. Humbling experiences are very hurtful - Don’t get hurt: Stay humble.

- “Nervi Belli Pecunia” - “L’argent est le nerf de la guerre”.
  - If you do not generate profits, you should not be in business.
  - Be extremely careful of “free money” (grants, …)

- Time is EVERYTHING.
  - Overpay to get today what others will get for cheaper tomorrow: competitive edge – It will give you “early” increased productivity – Stay ahead of the Curve.
Lessons Learned V:

- Lawsuits are the surest way to go out of business:
  - Negotiate a settlement.
  - Focus on positive and “value creating” issues.
  - Terminate negative, fear generating issues.
  - Don’t make them personal. It is only business. Keep cool. Fairness is not the issue. Deal with them as edging your bets or a simple insurance coverage.
  - Remain objective.
  - Watch for your attorney’s advices: always remember that he is playing in a non-zero sum game while you are in a zero-sum one! (i.e.: He makes a living out of it - Negotiate eye to eye with no attorney: this is where you make it personal but “he who cares the least wins”).
Lessons Learned VI:

- Vision.
- Focus.
- Execute – “Just Do It!”
- Commitment and Discipline, Discipline and Commitment.
- Do what you love and Love what you do.
- Passion.
So, where do we stand?

Every morning in Africa, a gazelle wakes up. It knows it must run faster than the fastest lion or it will be killed. Every morning a lion wakes up. It knows it must outrun the slowest gazelle or it will starve to death. It doesn’t matter whether you are a lion or a gazelle. When the sun comes up, you better start running.

The future?

African poem from The World is Flat by Thomas L Friedman
A Word of caution...

“In the business world, the rearview mirror is always clearer than the windshield.”

*Warren Buffet*
Predicting the Future

- "Everything that can be invented has been invented." - Charles Duell, U.S. Office of Patents, 1900
- “Where a calculator on the ENIAC is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1,000 vacuum tubes and perhaps weigh 1.5 tons.” - Popular Mechanics, March 1949
- “There is no reason for any individual to have a computer in his home.” - Ken Olsen, President of Digital Equipment, 1977
- "No one will ever need more than 640K of RAM." – Bill Gates
Imagine that the history of the universe is compressed into one year—with the big bang occurring in the first seconds of New Year’s Day, and all our known history occurring in the final seconds before midnight on December 31. Using this scale of time, each month would equal a little over a billion years.

The **Universe in One Year** was inspired by the late astronomer, Carl Sagan (1934-1996). Sagan was the first person to explain the history of the universe in one year as a “Cosmic Calendar”—in his television series, *Cosmos*. 

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# The Universe in One Year

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
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<tr>
<td>8</td>
<td>Cambrian Explosion (burst of new life forms)</td>
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<td>9</td>
<td>Emergence of first vertebrates</td>
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<td>10</td>
<td>Early land plants</td>
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<td>11</td>
<td>First four-limbed animals</td>
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<td>12</td>
<td>Variety of insects begin to flourish</td>
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<td>24</td>
<td>First dinosaurs appear</td>
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<td>25</td>
<td>First mammalian ancestors appear</td>
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<tr>
<td>29</td>
<td>Dinosaurs wiped out by asteroid or comet</td>
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<tr>
<td>31</td>
<td>10:15am Apes appear</td>
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<td>9:24pm First human ancestors to walk upright</td>
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<tr>
<td></td>
<td>10:48pm Homo erectus appears</td>
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<tr>
<td></td>
<td>11:54pm Anatomically modern humans appear</td>
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<tr>
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<td>11:59:45pm Invention of writing</td>
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<tr>
<td></td>
<td>11:59:50pm Pyramids built in Egypt</td>
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<tr>
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<td>1 second before midnight: Voyage of Christopher Columbus</td>
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Time is “speeding-up”…

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Modern Times

- Industrial Age 1770-1950
- Information Age 1950….
- Much less than a second within the Yearly Universe!

• How Much did we accomplish?
For the 20th century, Overall Technological Progress doubled every 10 years:

- 1900 – 1950 Technology increased 32 folds
- 1900 – 2000 Technology increased 1000 folds
- 1900 – 2010 Technology will increase 2000 folds
- 1900 – 2100 Technology will increase over 1,000,000 folds

The first ten years of the 21st century technological changes will be equivalent to everything that happened in the 20th century!
A New Reality

The Point & Click Society

The whole world is moving to: “Simple, Cheap, Small, Short life”

Traditional Business Models will have a very hard time
A New Reality – How to???

✧ Time is not expandable. It is a very limited, extremely valuable resource.

✧ Information Overload.

✧ Knowledge is difficult to assimilate under so many time and information constraints.

✧ Lack of “local” Knowledge (Experts work somewhere else for someone else,…)

✧ Entrenched way of doing business, fear of the new (basic human need for comfort of permanence).
**Shorter Product Lives**

- 1970: 2 persons, $100,000, 6 linear months, 15,000 lines
- 1980: 350 persons, $316,400,000, 8 linear years, 2 Million+ lines
- 2000

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Windows

- Windows NT 5.0 (in 2000) was 20ML
- Windows 2000 (in 2001) was 35ML
- Windows XP (in 2002) was 40ML

(data courtesy of Gary McGraw of Cigital)

Who is thinking of developing the next operating system?

Debian

- 14,005 person-years (900 volunteers)
- $ 1,891,990,000 ($1.9 billion!)
- 72.53 linear months (6.04 years)
- Based on Linux

(data courtesy of David A. Wheeler)
CAM Research & Development:

- DP Research Groups
- Co-Development:
  - Commercial Partners
  - Universities
  - Customers
- Technology Buy-out

Changes

Functionality

Environment

Knowledge

1982 1998 2004

Time

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ESPRIT Platform

Based on Patented Technology

Black Box / Knowledge Base Environment

Part

Knowledge

Functionality

Internet

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dptechology.com
ESPRIT Platform
Strategy: Evolution.

- Become the best in very small niche market. Generate sufficient profits to re-invest and go after new market segments.
- Constantly fine tune or/and optimize all business processes (including distribution). 20% investment in R&D.
- Changes are inevitable: we must lead and we must constantly change the playing field.
- Pick one or two competitive advantages and outsource everything else.
Strategy: Revolution.

- Create an environment (R&D and economic) that help people develop our product for “free”. Become the de-facto standard.

- CAM systems will disappear as they move to the machine tool control. A CAM system will become a “printer driver”.

- Connect a machine tool to a network and “print” any designed part.

- Create new innovative Distribution Channels.
Business Incubating:

- Create Profitable Independent Development Centers:
  - Develop your Manufacturing Solution on the ESPRIT platform.
  - Package it.
  - Publish it (Internet Store).
  - The ESPRIT World Network Distributes it.
  - YOU receive 100% of the income (less credit card fees).

- ESPRIT CAM Centers
  - Successful business model.
  - Leveraged cooperation.
Passion

Vision

The most powerful CAM software ever.
The limit of ESPRIT is ...

your imagination.
The most powerful CAM software ever.