Project Goal | *UK based PC that will compete with the new IBM PC.*

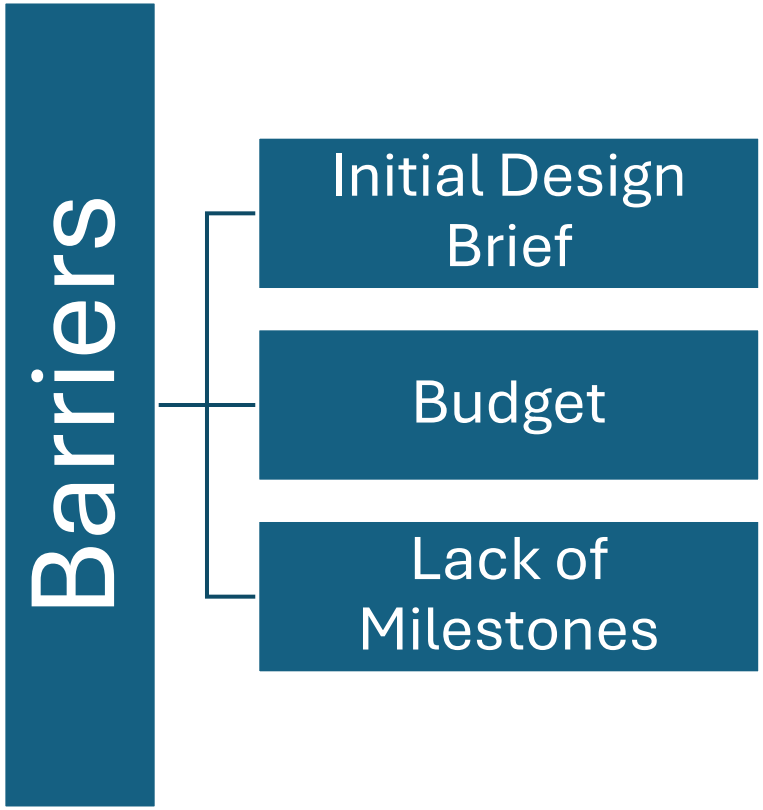
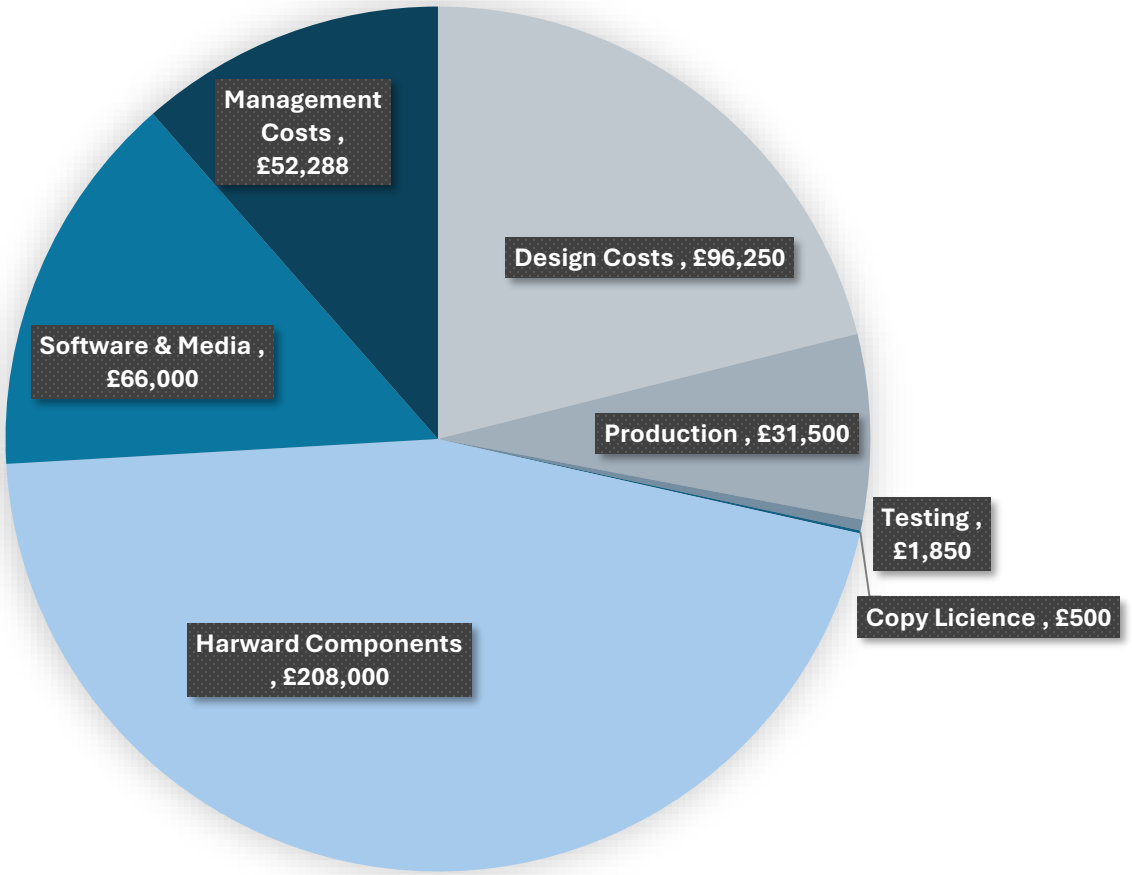


Figure 1 – Barriers to Success

	The initial design brief was based on an informal conversation between Will and Colin.
	The budget was unrealistic. The IBM PC retails at £1000 (Edwards, 2021), the cost for the Symputer is just £250.
	The lack of milestones and review meant a lack of agility.

Budget | *Current Position*

Synputer Mark I

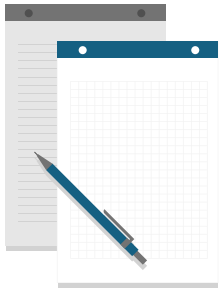


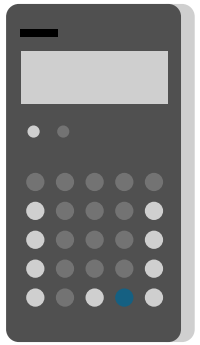
Contingency £43,611
Contingency is less than 10%

2000 units have been produced
Synful Computing Contingency £21 per unit
EDC £150 margin per unit £300,000

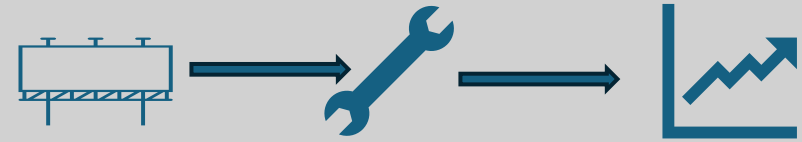
The solution will be to evolve and develop the Synputer Mark II

EDC | *Updated Requirements (Nov 1983)*





Industry standard operating system	▪ Syn OS provided / Unix at additional cost
At least a 68000 CPU – preferably upgradable	▪ Provided in Synputer Mark I
SCSI expansion capability	▪ Upgrade Option: Pro Expansion Card
2 serial ports that support RS 422/ 485 standard	
Support a GUI system and mouse	
External keyboard/ connector	▪ Included as standard in the Synputer Mark II
At least 512KB of RAM	
At least 1 industry standard drive with removable media	



Updated Requirements | *Solutions (1)*

Industry standard operating system

Supply Unix and Copy Licence

- Syn OS can be considered an industry standard
- Unix can be supplied with Synputer Mark I
- Additional Cost £10,599. Assume FX £1:$1
- EDC can realise *their* priority 1

Solution | **£10,500**

External keyboard/ connector

Include in Synputer Mark II

- Upgrade Case @ £10 per Unit
- Architecture Redesign @ £6,250
- Upgrade Keyboard @ £2.50 per Unit
- Redesign G1 IOP Chip @ £2500

Solution | **£33,750**

Updated Requirements | *Solutions (2)*

At least 512KB of RAM

Include in Synputer Mark II / Upgrade

- Mark I delivers functionality using 128KB
- No need to delay launch of Mark I
- Upgrade to 512KB with Mark II @ £4 per Unit
- Redesign G2 RAM Chip @ £2500
- Additional RAM can be provided via the Pro Expansion Card upgrade

Solution | **£10,500**

1 industry standard drive with removable media

Include in Synputer Mark II

- Mixed Storage: Cartridge and Floppy Disc
- Upgrade Storage @ £7.50 per Unit
- Architecture Redesign @ £2500

Solution | **£15,000**

Updated Requirements | *Solutions (3)*

SCSI expansion capability

Include in Synputer Mark II / Upgrade

- SCSI delivered through the Pro-Expansion Card
- Cannot be supplied as an upgrade to the Synputer Mark I
- Pro-Expansion Card @ £15 per unit
- SCSI interface & terminator @ £5 per unit
- Redesign G2 RAM Chip @ £2500

Solution | **£42,500**

At least a 68000 CPU, preferably upgradable

Development for Synputer Mark II

- 68000 CPU included in Mark I
- Upgrade to socketed board for Mark II @ £10 per Unit

Solution | **£20,000**

Updated Requirements | *Solutions (4)*

2 serial ports that support RS 422/ 485

Include in Synputer Mark II

- Upgrade to Multiplex SC150 @ £3 per unit
- Board redesign @ £1250
- Supports external keyboard
- Supports external mouse

Solution | **£7,250**

A board that is ready to support a GUI system and mouse if required by the user

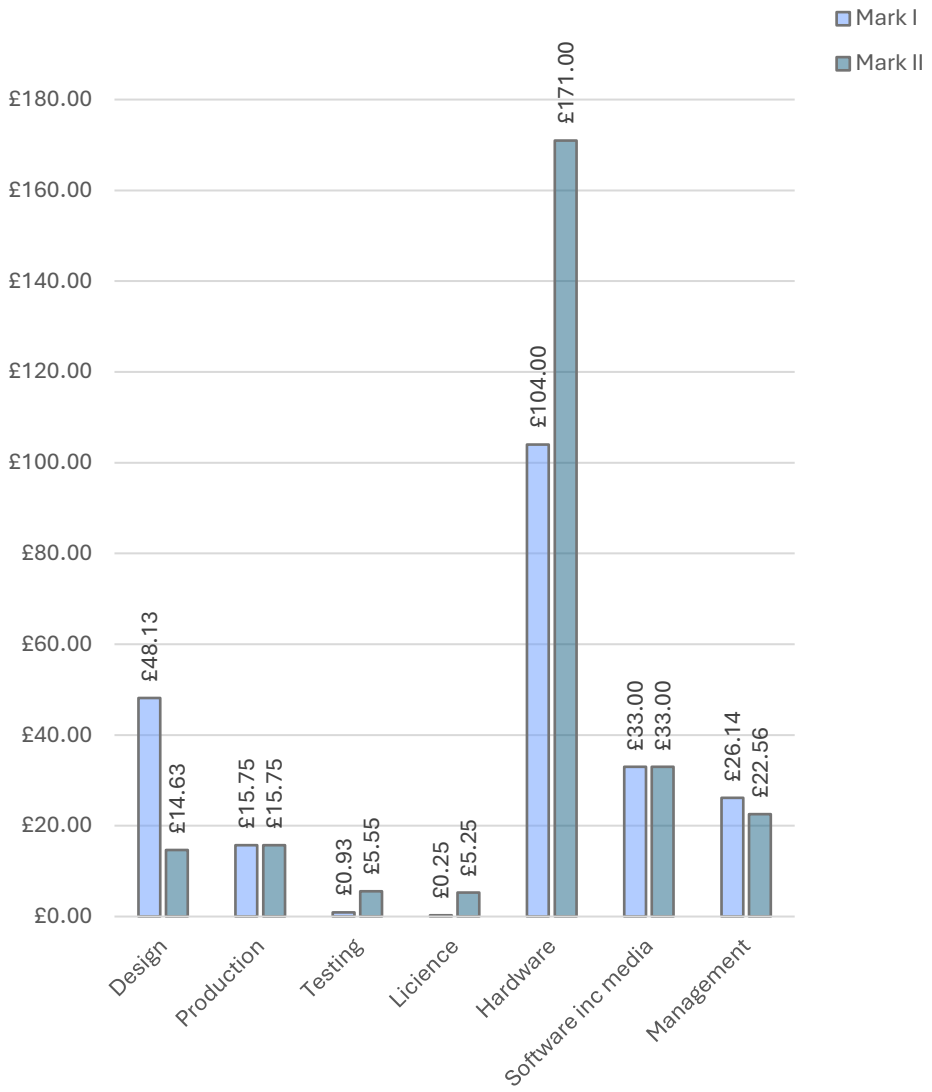
Include in Synputer Mark II

- The Mark II will pro upgrade to 64KB ROM @ £4 per Unit
- The Mark II will contain the hardware architecture to support a range of GUI
- No need to commit to a specific GUI now

Solution | **£8,000**

Budget | *Revised Position*

Synputer Cost Profile

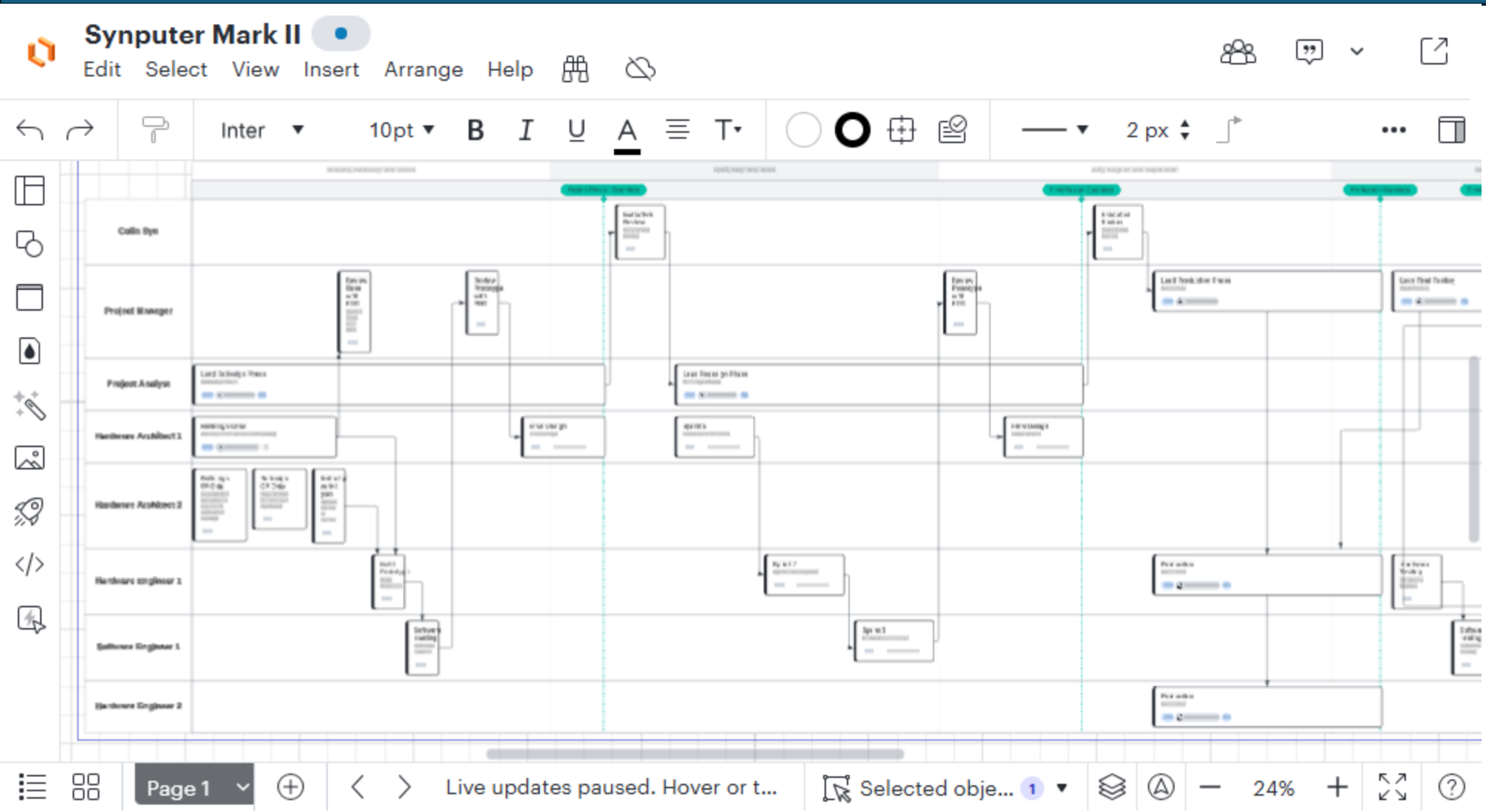


100% of EDC Revised Requirements Delivered

2000 Synputer Mark II to be produced at an agreed unit cost of just £275 (10% uplift)

UK based PC that will compete with the new IBM PC

Synputer Mark II | *Agile Development*



Sprints
1. Case Design
2. Prototype
3. Final Design
4. Executive Review 1
5. Prototype 2
6. Final Design Amendments
7. Executive Review 2
8. Production
9. Hardware Testing
10. Software Testing
11. Executive Review 3
12. Launch Synputer Mark II

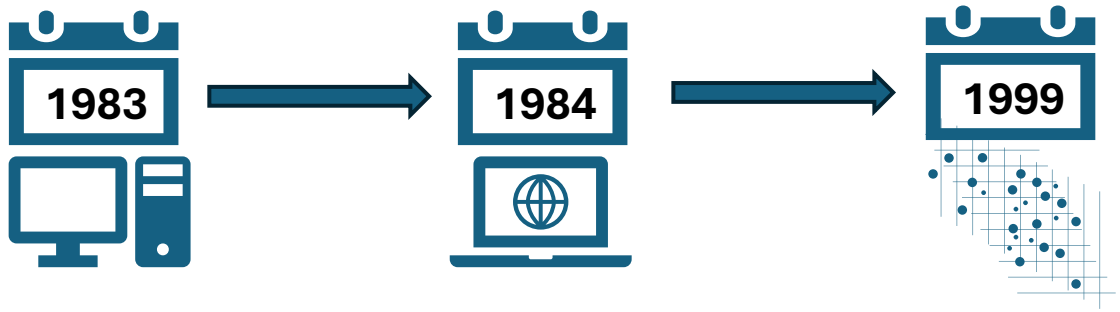
Synputer Mark II *Large Print Copy In Handout Pack

Synputer Mark II Cost per Unit | £275

Next Steps | *EDC-Synful Partnership*

2000 Synputer Mark I
Discounted Unit Price - **£230**
Launch December 1983

2000 Synputer Mark II
EDC Patnership Unit Price - **£275**
Launch December 1984



References

Anton, G. and Nucu, A. (2020) 'Enterprise Risk Management: A Literature Review and Agenda for Future Research', *Journal of Risk and Financial Management*, 13(11), pp. 281.

Durham, D and Michel C. (2021) *Lean Software Systems Engineering for Developer.* Lincloln: Apress.

Edwards, B. (2021) *The Golden Age of IBM PCs*. Available at: The Golden Age of IBM PCs (Accessed: 14 July 2025).

Elmore, J. (2025) *The Rise and Fall of Betamax: Unravelling the Mystery Behind Sony's Failed Format*. Available at: The Rise and Fall of Betamax: Unraveling the Mystery Behind Sony's Failed Format (Accessed: 14 July 2025).

Grimwood, A. (2022) *How to resolve a contractual dispute*. Available at: FSB | How to resolve a contractual dispute (Accessed: 14 July 2025).

Jadeja, R, Misra, S, and Mittal, M. (2024) *Practical Approaches to Agile Project Management*. New York: IGI Global

Mittal, R. and Singh, V. (2021) 'Risk Analysis in Software Cost Estimation: A Simulation-Based Approach', *Turkish Journal of Computer and Mathematics Education*, 12(6), pp. 2176–2183

Olmsted, O. (2024) *Security-Driven Software Development*. Birmingham: Pack Publishing Ltd.

Uzzafer, M. (2023). 'Strategic Management Of Software Projects: Cost, Risk, Contingency, Budget And Schedule', *International Journal of Engineering Technology Research & Management,* 07(3), pp.178-219.