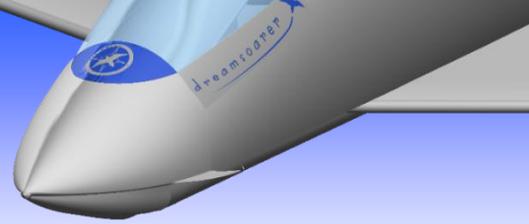


# Navig Aero Strategy

Results based rolling funding - quid pro quo

Plan 2014.7 > 2023.12



dreamsoarer 

Forging a dream into reality

*Join the adventure!*

## Navig Aero Plan Contents

### A Introduction

Introduction

Long and short term plan

### B Short term plan 2014.7>2016.12 Build one soarcerer

Investment scheme

Share tranches and RULES

Two and a half year tasklist

Dream-Team, task list timing and funding

Plan summary

### C Decade Vision 2014>2023 To manufacture aircraft

Target 2011 > 2023

Plan pyramid

Budget 2014.7 > 2021

Making money and increasing share value

Model family summary

Model family detail and venn diagram

2014-2023 Model expansion chart

2014-2023 Model expansion pyramid

### D Product and business discussion

The manufacturing project

Lean production, lean everything

Direct competitor analysis

Sailplane and GA ownership

Profitability with low volume & direct marketing

Making aeroplanes

From CAD concept to 1:1 manufacture-model £40k

### E Summary

Business summary

Investment summary



# INTRODUCTION

This document invites you to consider investing in a financial-time plan to profitably manufacture a ground breaking *Dreamsoarer* aircraft family.

The aircraft technology, videos and PDFs are found on the [website](#).

## Why create the Dream Team?

Coming up with an aircraft design is not the hard part of this project.

There are hundreds of designers with their own plane concept all convinced of its merits.

Navig Aero created the *Dream Team* - pilots, engineers, enthusiast and experts - to:

- i) Find other people who also believe in the dreamsoarer concept.
- ii) Collate expertise and enthusiasm required to drive forward an aircraft development.
- iii) Reassure investors there is sufficient knowledge and competence on board.

The dream team will delve into every aspect, component and component relationship.

To decide, identify, optimise, cost, refine each washer, bracket, mechanism and spatial position and choose their individual material specification and dimension.

Each part requires a deep dive and vigorous discussion between the team discussed during;

- monthly newsletter
- ongoing live confidential forum

Concept design by committee leads to dull products, but once that product concept is established, like the dreamsoarer, thereafter the more people involved the better.

## Funding Sought £12,000 for the first 6%, £40,000 (or €/SEK/NOK) for the first 20%, via:

- Individual or groups of investors taking percentages.
- Regional funding bodies loaning or granting support.
- Strategic green tech funding loaning or granting support.
- Customer-manufacturer mutually beneficial partnership.
- Self funding by BC - the current scenario.

Navig Aero is seeking relatively modest project funding for each clear gate.

By gating the funding until project results are delivered, the investor is more protected.

Whatever funding comes in, Navig Aero will force the project forward during 2014/15.

There are tax advantages to investing ([SEIS](#)) while industrial investment is [tipped](#).

Thank you to anyone for considering being part of Navig Aero.

Yours sincerely,

Ben Collins.



Ben is an experienced transport designer with a 20 year track record of simplification and innovation. Ben is especially interested in aerodynamics, transport design and engine technology in a career taking him to Portugal, Scotland, Germany, Italy and Sweden. A design philosophy of "nature is the best designer" and life interest of birdwatching led to the creation of polymorphic wings and an airframe to complement that. Manufacturing the dreamsoarer is the key ambition.

More [here](#). Roles 2014 : Project lead, co-ordinator, CAD.

dreamtourR 



dreamsoarer 

# LONG TERM PLAN Summarising 2014.7>2023

There is a single coherent target for 2014.7-2015.6, build full scale manufacture-models of the closely related *soarcerer* and *dreamsoarer*. That will greatly advance our project from today's concept CAD models.

Armed with full scale manufacture-models, costing, BoM, calculations and flown virtually in X-Plane establishes a tremendous platform to go forwards with Navig Aero from 2015.6.

In 2016 we will build and ground test a dreamsoarer/soarcerer prototype. Eventually leading to full publication of the project to confirm presales already agreed via the A-Sweep scheme.

In 2017 we will fly the prototype, take orders and begin limited batch production at the end of the year. The first batch will be pre-sold via the A-sweep proposal.

In 2018 we will start to move away from *development* toward the business of *manufacturing*, the real business of building aircraft effectively and profitably.

During the following years, sales volume will increase and new products from a logically derived modular family will be introduced to customers and new markets. By 2023 Navig Aero will have established a world reknowned significant manufacturing and organisational platform. Though this will not be an easy journey.

## SHORT TERM PLAN 2014.7 > 2015.6 > 2016.12

### Justifying project valuation of £200,00

Your initial investment, the one this plan wishes to entice you into, is targetting a clear result - the full scale manufacture-model. If the manufacture-model is brilliant then there is every reason to believe the project valuation rises from £200,00 to £400,00 or more.

If that model is not brilliant, then the project valuation and your share will be less or may even have diminished completely to £0. It is your responsibility to evaluate the Navig Aero dreamsoarer family and ask yourself three questions:

- Are today's 2014.5 CAD-model-concepts, IP and business plan worth £200,000?
- Will the manufacturing-model in 2015.6 and collated project team be worth at least £200,000, or even close to £400,000?
- Do I believe that BC and the internet based "DreamTeam" can deliver that in 2014.7-2015.6?

The detailed plan for 2014.7-2016.12 (section B) and then long term plan for 2014.7-2021 (section C) will now be explained in tables and diagrams on the following pages. The final section (D) discusses the business of making aircraft. In the next two years we move from CAD-model to manufacture model and then a real plane, ready to fly and make aviation history.

Join the adventure!

dreamtourR 



dreamsoarer 



## **B Short term plan 2014.7>2016.12**

### **Build one soarcerer**

Investment scheme

Share tranches and **RULES**

Two and a half year tasklist

Dream-Team, task list timing and funding

Plan summary

# INVESTMENT SCHEME 2014.5 > 2016.10

This prospectus serves as both project definition and investment contract.

The document values the proposal at £200,000 at kick off and £400,000 at the close of the first phase one June 30th 2015.5 By Dec 31st 2016, Navig Aero is estimated to be worth £500,000.

The first tranche £12,000 June 2014 buys 6% share : project value £200,000.

The first investors have first choice to choose to invest further, not invest further but retain existing share or sell share. In the event of selling then resale of project share value has open market price but other existing shareholders have first refusal at market value.

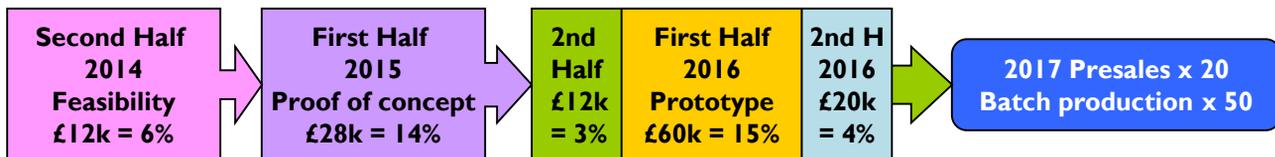
- The second tranche £28,000 Jan 1st 2015, buys 14% share of the project, then valued at £200,000.
- The third tranche £12,000 July 1 2015, buys 3% share of the project, then valued at £400,000.
- The fourth third tranche £60,000 Jan 1 2016, buys 15% share of the project, valued at £400,000.
- The fifth and final tranche £12,000 July 1st 2016 buys 2% share, then valued at £500,000.
- With a test marketed and ground tested prototype at the end of 2016, the estimated value of Navig Aero is thus £500,000+.

If a single investor were to invest all tranches that would cost £132,000 and give 44% project share assuming the prices of the share issue followed this table - only the first two tranches, i.e. 20 shares have a fixed price however. At the start of the project, before any investment, BC owns 100% of the project. Rules page to follow.

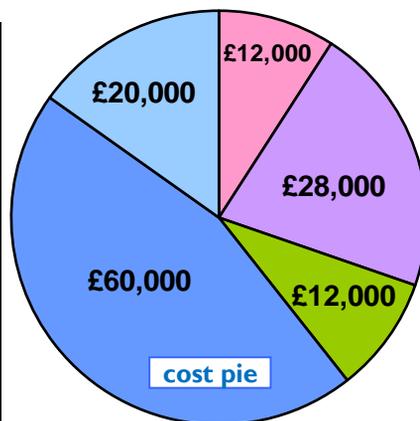
The project share means ownership of the entire project, including manufacturing rights and intellectual property excluding the CLP engine.

Any public funding grant assistance contributes directly to the project.

The result of the project to 2016 is a ground tested prototype and sales tool for batch production.



Navig Aero dreamsoarer 2014.7-2016.12		Cost & Timings		
		Weeks	Hours	Cost
5th Apr 2014 Ben Collins				
A : 2014 Second half	Feasibility	25	1000	£ 12,000.00
B : 2015 First half	Manufacture-model	25	1000	£ 28,000.00
C : 2015 Second half	Production design	25	1000	£ 12,000.00
D : 2016 First Half	Prototype build	25	1000	£ 60,000.00
E : 2016 Second half	Ground developmen	25	1000	£ 20,000.00
Total		125	5000	£ 132,000.00



# Navig Aero dreamsoarer

# Investment and Tranche Funding 2014.7-2016.12

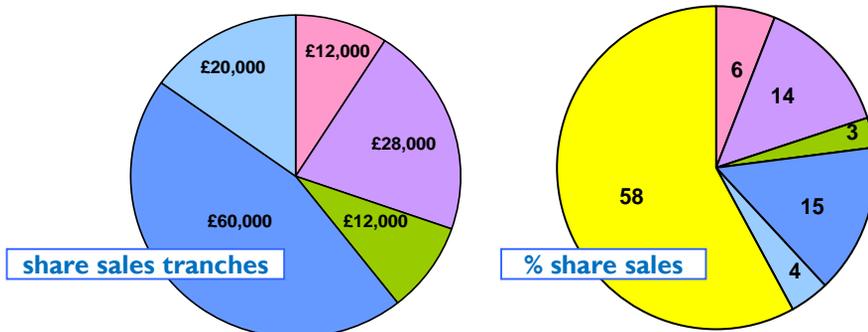
5th Apr 2014 Ben Collins

		Share price value	Share sales	%tage share	Total sold project shares	Remaining project shares	Total value per share	Nominal project valuation	Project share sale and funding tranche
A : 2014 Second half	Feasibility	fixed price	6	6	6	94	£2,000	£ 200,000	£ 12,000
B : 2015 First half	Manufacture-model	fixed price	14	14	20	80	£2,000	£ 200,000	£ 28,000
C : 2015 Second half	Production design	open market	3	3	23	77	£4,000	£ 400,000	£ 12,000
D : 2016 First Half	Prototype build	open market	15	15	38	62	£4,000	£ 400,000	£ 60,000
E : 2016 Second half	Ground developmer	open market	4	4	42	58	£5,000	£ 500,000	£ 20,000
<b>Total</b>			<b>42</b>	<b>42</b>	<b>42</b>	<b>58</b>	<b>£5,000</b>	<b>£500,000</b>	<b>£ 132,000</b>

Please note at the end of 2016 the project (Navig Aero Ltd) valuation £500,000 is estimated, this could be £1M or £0.

If by >2016 Navig Aero have a flyable dreamsoarer prototype and orders fulfilled according to the A-Sweep scheme, then it will be worth >£1M

The 58 BC shares are likely to be also reduced through issue of sweat equity to participating experts in; propulsion, aerodynamics, certification.



## Rule ref Navig Aero rolling share sales rules and partnership kick off July1st 2014.

- Rule1 As of June 30th 2014 BC owns 100 shares, 100% nominally valued at £200,000 or £2,000 each
- Rule2 During April-June 2014 BC will offer for sale 20 shares, 20%, valued at £40,000 or £2,000 each.
- Rule3 The first issue of shares £40,000 / 20 shares / 20% will be distributed according to availability of buyers identified during May-June 14.
- Rule4 Existing shareholders have first option on each new share tranche by proportion according to their existing share investment.
- Rule5 Each new share tranche is sold on open market price, except the first 20 shares which are sold by subscription - see rule 3.
- Rule6 Each share tranche will be sold up to the value necessary to complete the next stage according to the investment summary table.
- Rule7 In the event of insufficient bidding for shares available, next stage costs will be met by BC consulting part time to meet expenditures.
- Rule8 In the event of oversubscription of bidding for the next tranche to meet the stage costs, fewer shares will be sold, i.e. sold at market price.
- Rule9 The fourth year, 2017 will raise funds through further share sales and or loans made against orders, note 2016 requires much greater funding.
- Rule10 Shares can be traded freely at any time, but before shares are sold they must be offered to fellow shareholders on first refusal at market price.
- Rule11 **An alternative to issuing partnership shares, pursued with equal vigour is favourable loan or grant funding for the project.**
- Rule12 **There will only ever be 100 shares.**
- Rule13 **English partnership law and rules applies in all aspects of the running of Navig Aero.**
- Rule14 BC commits time to project at 14 standard rate, unless exceptional circumstances prevail



# Navig Aero 2,5 year task list, timing and labour cost

5th Apr 2014 Ben Collins

Ref	A : 2014 Second half	Feasibility		
F1	Task	Hours	Weeks	Y
F1	Start bank & tax accounts, website, email, database, contacts, meetings, drawing system.	140	4	
F2	Rapid second loop and identification of project design areas; sorted, intermediate, vague.	140	4	
F3	Present work, printing, fix agenda, all aspects "deep dive" review of kick off status.	140	4	
F4	Derive cascade of uncertain areas and proceed with solution development and refinement.	140	4	
F5	Define all standard parts or smorgasbord : cost, supplier, weight, specs, powertrain.	140	4	
F6	Interim review of status, what is missing, what is defined, what needs refinement.	140	4	
F7	Nailing down of CAD spatial packaging, modules, assembly, sizing, thickness, weights, and details.	120	3	
F8	Collate work, including drawings renderings, BoM and video sequence. Present.	40	1	
<b>Total</b>		<b>1,000</b>	<b>25</b>	<b>0.5</b>

Ref	B : 2015 First half	Manufacture-model		
PoC	Task	Hours	Weeks	Y
PoC1	Define product specification for manufacture model.	160	4	
PoC2	Adaption for scaling, source parts, materials and standard, motor fixings etc. Ordering.	160	4	
PoC3	Control wiring packaging parts routing, adjustment, assembly, harness, powertrain.	160	4	
PoC4	Assembly sequence and grouping of modules. Start of fabrication.	160	4	
PoC5	Fabrication, assembly and finishing. Powertrain testing, control element testing.	160	4	
PoC6	Presentation of completed package, drawing collation and model. Prototype finishing & ergonomic	200	5	
<b>Total</b>		<b>1,000</b>	<b>25</b>	<b>0.5</b>

Ref	C : 2015 Second half	Production design		
D	Task	Hours	Weeks	Y
D1	Airframe analysis, BoM and definition of all modules, parts, assembly, process, <b>review</b> .	480	12	
D2	Parts, suppliers, drgs, patents, electrical, safety, legal, tolerances, cost, ordering, workshop.	520	13	
<b>Total</b> (note more detail on 2015 tasks at the end of 2014)		<b>1,000</b>	<b>25</b>	<b>0.5</b>

Ref	D : 2016 First Half	Prototype build		
p	Task	Hours	Weeks	Y
P1	Fabrication in house and at suppliers & ongoing component refinement.	480	12	
P2	Assembly & ongoing component refinement.	240	6	
P3	Finishing and powertrain testing & ongoing component refinement.	280	7	
<b>Total</b>		<b>1,000</b>	<b>25</b>	<b>0.5</b>

Ref	E : 2016 Second half	Ground development		
TC	Task	Hours	Weeks	Y
TC1	Patent Applications final "in house" drafts & ongoing component refinement.	280	7	
TC2	Ground trials, powertrain duration test, preparation for flight trials & ongoing component refinemer	320	8	
TC3	First dummy flight trial sequence. Deep project review. Define status, plan 2016.	400	10	
<b>Total</b>		<b>1,000</b>	<b>25</b>	<b>0.5</b>

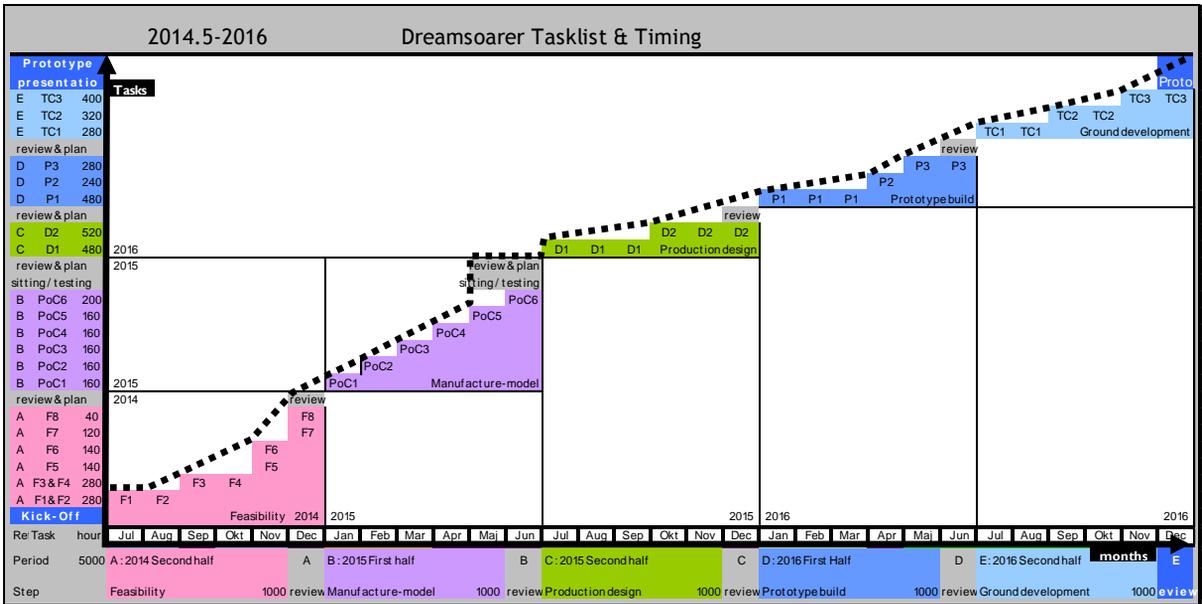
	Hours	Week	Year
Ground tested dreamsoarer presented to prospective customers and investors, possibly also at Fredrichshafen	5,000	125	2.5



# DREAM TEAM METHOD

There are regular quarterly webinars, monthly newsletters and a live ongoing forum. Frequent reviews, planning for the next stage, robust discussion and quite simply, deliberation from all.

There will also be plenty of unlogged contributions from all stakeholders. In the first embryonic year of the project, the Dream Team input is voluntary. In the second year time is logged and rewarded as sweat equity.



Navig Aero Ltd : quid pro quo funding				2014.7-2016.12		5th Apr 2014 Ben Collins	
Step	Title	Funding Needed	Result required	Funding Schedule	Funding Dates		
A	: 2014 Second half Feasibility	£12,000.00	Drawing suite & detail solutions	£ 12,000.00	July 1 2014		
B	: 2015 First half Manufacture-model	£28,000.00	Calculations, parts and suppliers	£ 28,000.00	Jan 1 2015		
C	: 2015 Second half Production design	£12,000.00	Manufacturing-model-prototype	£ 12,000.00	July 1 2015		
D	: 2016 First Half Prototype build	£60,000.00	Build it, fire it up, check kinematics.	£ 60,000.00	Jan 1 2016		
E	: 2016 Second half Ground development	£20,000.00	System and ground testing	£ 20,000	July 1 2016		
<b>Total</b>		<b>£132,000.00</b>		<b>£132,000</b>	<b>&gt;Dec 2016</b>		



# PLAN SUMMARY

This plan is dramatic in its ambition, but also practical in the first steps.

There is no rigid timetable for product expansion and true focus remains on the first steps from 2014.7 > 2015.6, feasibility, proof of concept and 1:1 model.

Even to build manufacture-model for an aeroplane for £40,000 will be a tremendous challenge and achievement. To then take that to a working aircraft to form the basis of future sales again presents real issues and risk.

Once a working prototype is ground tested and test marketed we will know an awful lot more than today and can begin to think seriously about flying the prototype and producing it. If the dreamsoarer can deliver all or most of what is promised then the plane will sell in good volume. If we can really design and build this in two and a half years for £132,000 all in then it will be remarkable. According to this plan, it is possible.

dreamsoarer		Prototype Costing			5th Apr 2014 Ben Collins 2014.7-2016.12	
<b>A</b>		<b>Feasibility</b>		<b>A : 2014 Second half</b>		
<b>Cost Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit</b>	<b>Total</b>	<b>Notes</b>	
Labour	hour	1000	£12	£12,000	CAD labour £10 ph + £2 CAD office = £12ph CAD labour is discounted 75% normal rate	
<b>Total</b>				<b>£ 12,000</b>	running total £12,000	
<b>B</b>		<b>Manufacture-model</b>		<b>B : 2015 First half</b>		
<b>Cost Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit</b>	<b>Total</b>	<b>Notes</b>	
Labour 1/1 scale manufacture model	hour	1000	£12	£12,000	Apply for extra funding to enable even more prototypes/higher quality of £16,000 manufacture-model.	
<b>Total</b>				<b>£ 28,000</b>	running total £40,000	
<b>C</b>		<b>Production design</b>		<b>C : 2015 Second half</b>		
<b>Cost Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit</b>	<b>Total</b>	<b>Notes</b>	
Labour	hour	1000	£12	£12,000		
<b>Total</b>				<b>£ 12,000</b>	running total £52,000	
<b>D</b>		<b>Prototype build</b>		<b>D : 2016 First Half</b>		
<b>Cost Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit</b>	<b>Total</b>	<b>Notes</b>	
Labour	hour	1000	£12	£12,000		
Prototype parts				£20,000	raw materials, source parts, specials, finishing	
Workshop & Tools				£10,000	share workshop , 8x6m@=50m2 12 months	
External				£10,000	certification and propulsion assistance+equity	
Contingency				£8,000	lots of side costs, transport, finishing, demos etc	
<b>Total</b>				<b>£ 60,000</b>	running total £112,000	
<b>E</b>		<b>Ground development</b>		<b>E : 2016 Second half</b>		
<b>Cost Item</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit</b>	<b>Total</b>	<b>Notes</b>	
Labour	hour	1000	£12	£12,000		
Tuning & Avionics				£8,000		
<b>Total</b>				<b>£ 20,000</b>	running total £132,000	
<b>Total</b>				<b>£ 132,000</b>	Labour 2.5 year £60,000 Cost: £72,000	



## C Decade Vision 2014>2023 To manufacture aircraft

Target 2011 > 2023

Plan pyramid

Budget 2014.7 > 2021

Making money and increasing share value

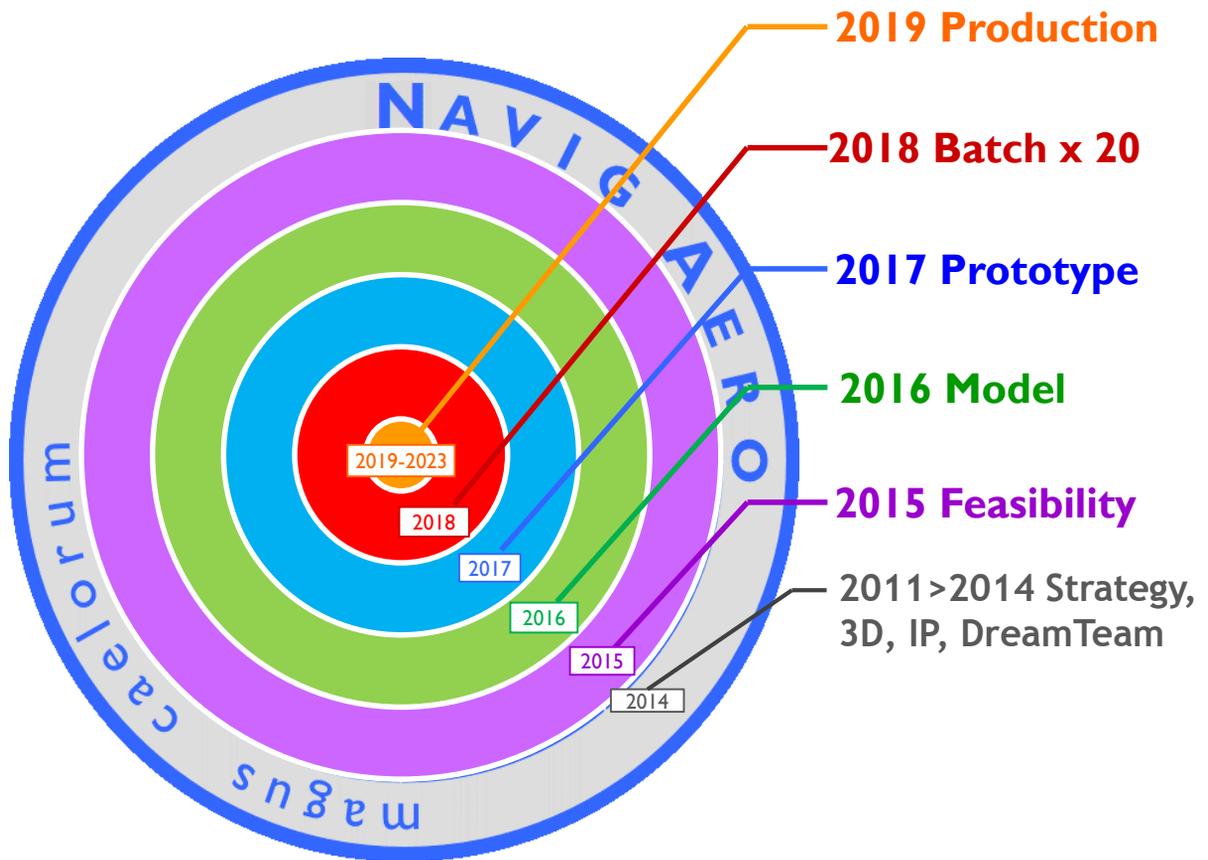
Model family summary

Model family detail and venn diagram

2014-2023 Model expansion chart

2014-2023 Model expansion pyramid

## TARGET 2011 > 2023



### Status

2011-2014.6 CAD model concept established, drawing suite & 3D models, business prospectus. Extensive intellectual property identified and Dream-Team created. Project valued at £200,000.

### Goals

**2015.6 Feasibility and proof of concept : 12 months : £40k**

Detail the concept, including a full scale manufacture-models - dreamsoarer and soarcercer.

**2016.12 Presentation of Product : 18 months : £72k (total £132k)**

Create a flyable dreamsoarer prototype, sufficient to entice investment for production and sales.

**2017 Batch production 20-50 units : 12/36 months : £400k Secured against orders (total £532k)**

Break even manufacture the soarcercer in low volume secure batch production at the end of 2017.

**2018 Serial production : 12 months : £400k - factored loan secured against orders x 50**

Begin expansion into a range of certified light aircraft; monos and duos first.

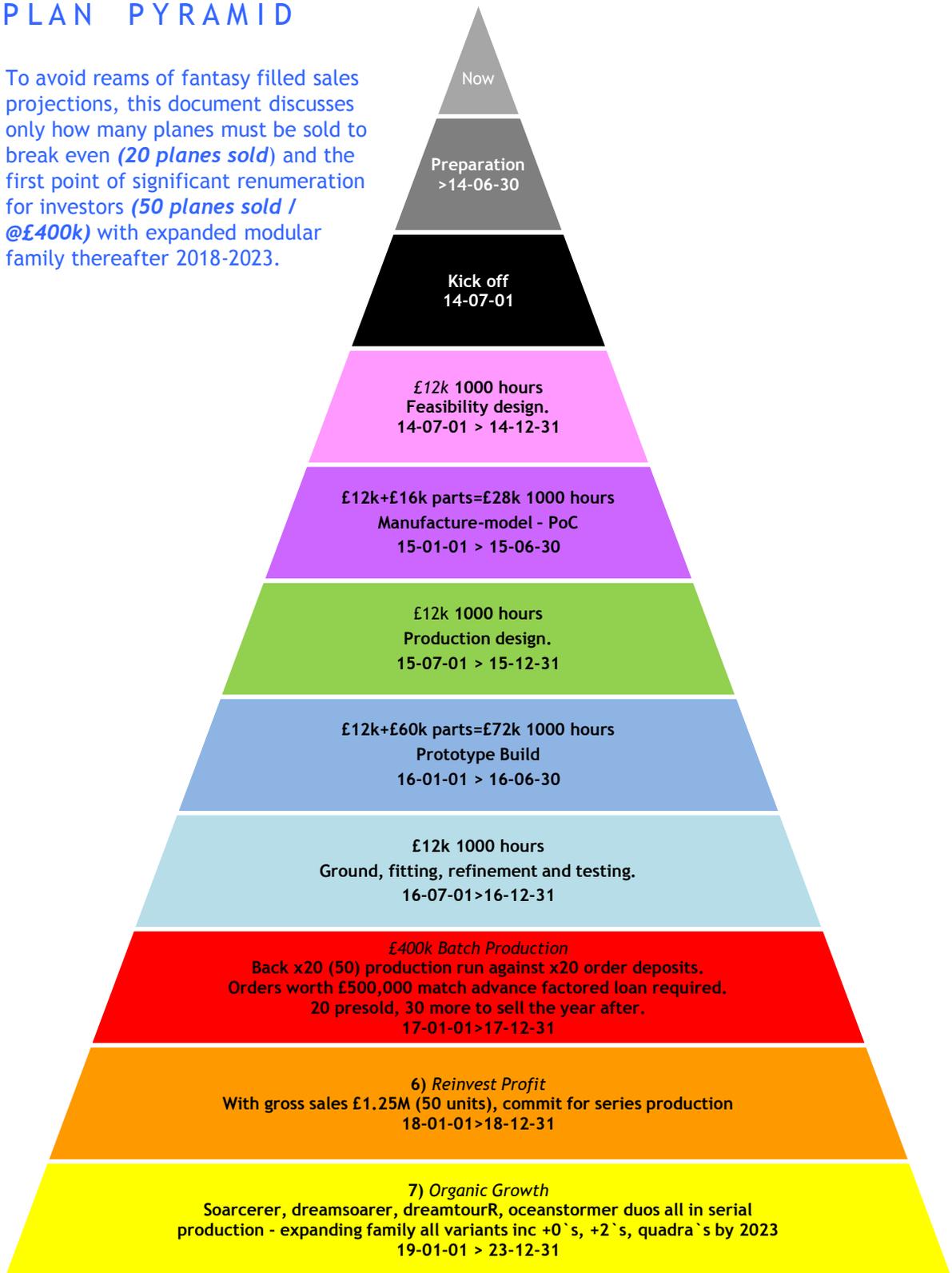
**2019-2021 Serial production : 36/84 months : £Organic Growth**

Create a range of light aircraft: soarcercer, dreamsoarer & dreamtourR, dreamflyR, oceanstormer, atlanticranger utility and civilian duty specialist variants.



# PLAN PYRAMID

To avoid reams of fantasy filled sales projections, this document discusses only how many planes must be sold to break even (**20 planes sold**) and the first point of significant remuneration for investors (**50 planes sold / @£400k**) with expanded modular family thereafter 2018-2023.



Navig Aero : Budget 2014-2022										ref linkcell X		5th Apr 2014 Ben Collins		
Year	Task	Funding Needed	Annual Factored Loan	Organic reinvestment	Units	Gross margin per unit	Gross income	Gross Profit/loss after loan	Estimated Tax and other costs	Net Profit/loss	Proposed Dividend per share	Estimated share price (100)	Funded by:	Funding Dates
2014	Feasibility design	£12,000	£0	£0	£0	£0	£0	£-12,000	£0	£-12,000	£0	£2,000	Share sales	July 12014
2015	Proof of concept and manufacture-model	£40,000	£0	£0	£0	£0	£0	£-40,000	£0	£-40,000	£0	£2,000	Share sales	Jan 12015
2016	Prototype build and ground testing	£80,000	£0	£0	£0	£0	£0	£-80,000	£0	£-80,000	£0	£4,000	Share sales	Jan 12016
2017	Flying and one off batch production	£130,000	£0	£0	£20	£6,500	£130,000	£0	£0	£0	£0	£5,000	Factored loan	Jan 12017
2018	Streamlined batch production & certificatio	£0	£400,000	£0	£50	£8,000	£400,000	£0	£0	£0	£0	£6,000	Factored Loan	Jan 12018
2019	Serial production and range expansion	£0	£500,000	£0	£80	£10,000	£800,000	£300,000	£150,000	£150,000	£375	£8,375	Factored Loan	n/a
2020	Stabilisation of company and model expans	£0	£500,000	£112,500	£120	£10,000	£1,200,000	£700,000	£293,750	£293,750	£734	£12,734	Organic growth	n/a
2021	Stabilisation of company and model expans	£0	£0	£220,313	£200	£10,000	£2,000,000	£2,000,000	£889,844	£889,844	£2,225	£22,225	Organic growth	n/a
2022	Aero			£667,383										Shares now valuable with healthy dividend
<b>Seven year totals</b>		<b>£ 262,000</b>	<b>n-a</b>	<b>£ 1,000,195</b>	<b>£ 470</b>	<b>n-a</b>	<b>£ 4,530,000</b>	<b>£ 2,868,000</b>	<b>£ 1,333,594</b>	<b>£ 1,201,594</b>	<b>n-a</b>			

Navig Aero Limited : Budget 2014-2022										ref linkcell X	
Year	Task	Funding Needed	Annual Factored Loan	Organic reinvestme nt	Units	Gross margin per unit	Gross income	Gross Profit/loss after loan			
2014	Feasibility design	£12,000	£0	£0	£0	£0	£0	£-12,000			
2015	Proof of concept and manufacture-model	£40,000	£0	£0	£0	£0	£0	£-40,000			
2016	Prototype build and ground testing	£80,000	£0	£0	£0	£0	£0	£-80,000			
2017	Flying and one off batch production	£130,000	£0	£0	£20	£6,500	£130,000	£0			
2018	Streamlined batch production & certificatio	£0	£400,000	£0	£50	£8,000	£400,000	£0			
2019	Serial production and range expansion	£0	£500,000	£0	£80	£10,000	£800,000	£300,000			
2020	Stabilisation of company and model expans	£0	£500,000	£112,500	£120	£10,000	£1,200,000	£700,000			
2021	Stabilisation of company and model expans	£0	£0	£220,313	£200	£10,000	£2,000,000	£2,000,000			
2022	Aero			£667,383							
<b>Seven year totals</b>		<b>£ 262,000</b>	<b>n-a</b>	<b>£ 1,000,195</b>	<b>£ 470</b>	<b>n-a</b>	<b>£ 4,530,000</b>	<b>£ 2,868,000</b>			

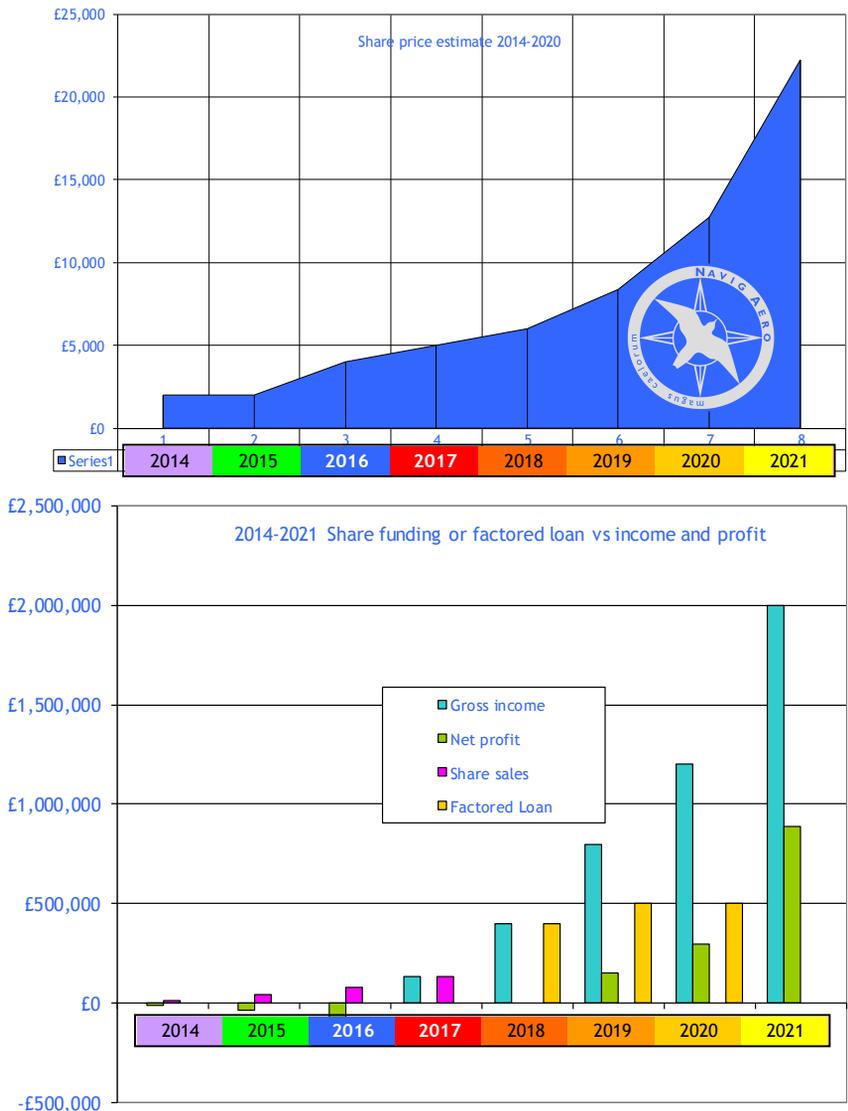
ref linkcell X										5th Apr 2014 Ben Collins	
Gross income	Gross Profit/loss after loan	Estimated Tax and other costs	Net Profit/loss	Proposed Dividend per share	Estimated share price (100)	Funded by:	Funding Dates				
£0	£-12,000	£0	£-12,000	£0	£2,000	Share sales	July 12014				
£0	£-40,000	£0	£-40,000	£0	£2,000	Share sales	Jan 12015				
£0	£-80,000	£0	£-80,000	£0	£4,000	Share sales	Jan 12016				
£130,000	£0	£0	£0	£0	£5,000	Factored loan	Jan 12017				
£400,000	£0	£0	£0	£0	£6,000	Factored Loan	Jan 12018				
£800,000	£300,000	£150,000	£150,000	£375	£8,375	Factored Loan	n/a				
£1,200,000	£700,000	£293,750	£293,750	£734	£12,734	Organic growth	n/a				
£2,000,000	£2,000,000	£889,844	£889,844	£2,225	£22,225	Organic growth	n/a				
Shares now valuable with healthy dividend											
<b>£ 4,530,000</b>	<b>£ 2,868,000</b>	<b>£ 1,333,594</b>	<b>£ 1,201,594</b>	<b>n-a</b>							



# MAKING MONEY AND INCREASING SHARE VALUE

The figures herein -derived from the budget table - paint a pretty rosy picture, it probably will not extrapolate quite so smoothly - but we *are* aiming to make money, not just aircraft, wrinkles and headaches.

These figures are our main target, while our second base target will be to keep share value rising at least with inflation during the first, possibly very difficult, years.



In the event we can start producing planes that cost £10,000 to make, with a ticket price of £25k and a margin of @£10,000+ then there is some money to be made by 2020.

However the business of aircraft production involves a whole heap of costs and issues to be discovered along the way, things like product liability, IP, certification, CE-marking, different legal rules and logistics for every country. It will not be easy!

# MODEL FAMILY SUMMARY

The most difficult stagepost is to build a prototype, to determine if the project has merit. The goal is then to sell twenty and make fifty planes, after that everything is a bonus.

Assuming a satisfactory rollout of production and reasonable sales demand, we can plan for a family of logically related products with significant commonality. The speed of product rollout should be tempered by means to production and testing rather than specific dates. No need for haste, however no harm in some ambition now.

Despite the commonality, producing these planes will take Navig Aero from "high tech shed fun project" to serious medium volume plane manufacturer. For example we aim to make the Ocean Ranger quadra *the number one utility aircraft solution in the world* - long range, twin engined, high efficiency with extreme STOL on ice, water, snow, sand, rough ground or marsh.

Who would not want an easy to land, fast, aerobatic two seater plane with very high cruise economy, low price and attractive looks and a 4000km range. That has a big potential. There are even more possible derivatives - but the table below will take a decade.

soarcerer 

ocean stormer 

dreamsoarer 

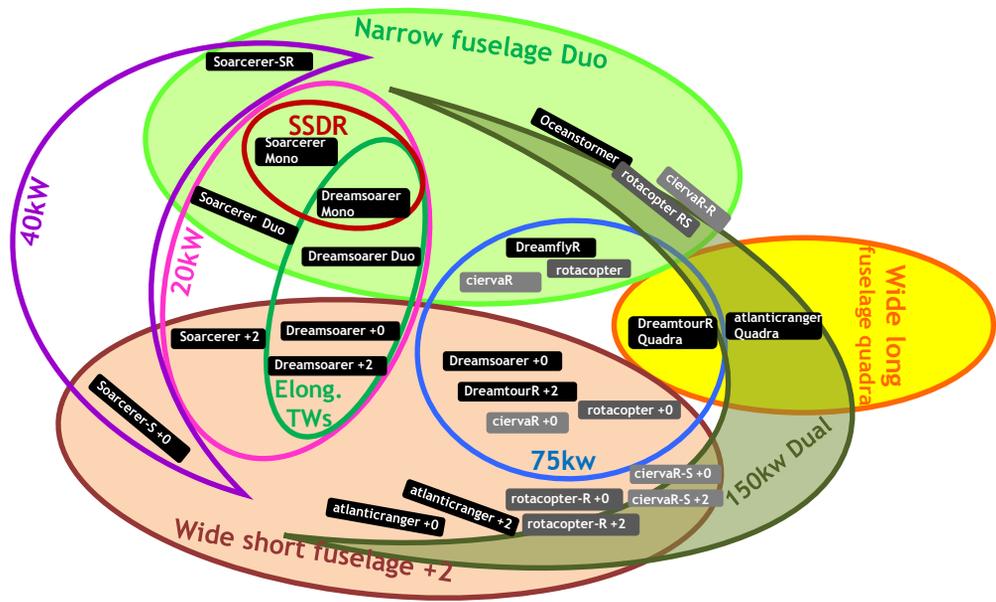
atlantic ranger 

Navig Aero Family Summary 2014-2023							
Type of aircraft	Abbreviation	Family Name	Variants and occupants				Navig AeroWebsite
			Mono	Duo	2+0	2+2	
Touring-glider	SC	soarcerer	1 SDR	2	2		www.soarcerer.com
Sailplane	DS	dreamsoarer	1 SDR	2	2	4	www.dreamsoarer.com
Touring	SCS	soarcerer-S		2	2		www.soarcerer.com
Sports	DF	dreamflyrR		2			www.dreamflyr.com
Touring	DT	dreamtourR			2	4 4	www.dreamtourr.com
Race & intercontinental	OS	oceanstormer		2			www.oceanstormer.com
Intercontinental	AR	atlanticranger			2	4 4	www.atlanticranger.com
Model variants							
1/5 Model sailplane		dreamsoarer-M					www.dreamsoarer.com
1/5 Model racer		oceanstormer-M					www.oceanstormer.com
Future variants							
Gyrocopter	CR	ciervaR		2	2	4	www.rotacopter.com
Rotorcopter	RC	rotacopter		2	2		www.rotacopter.com

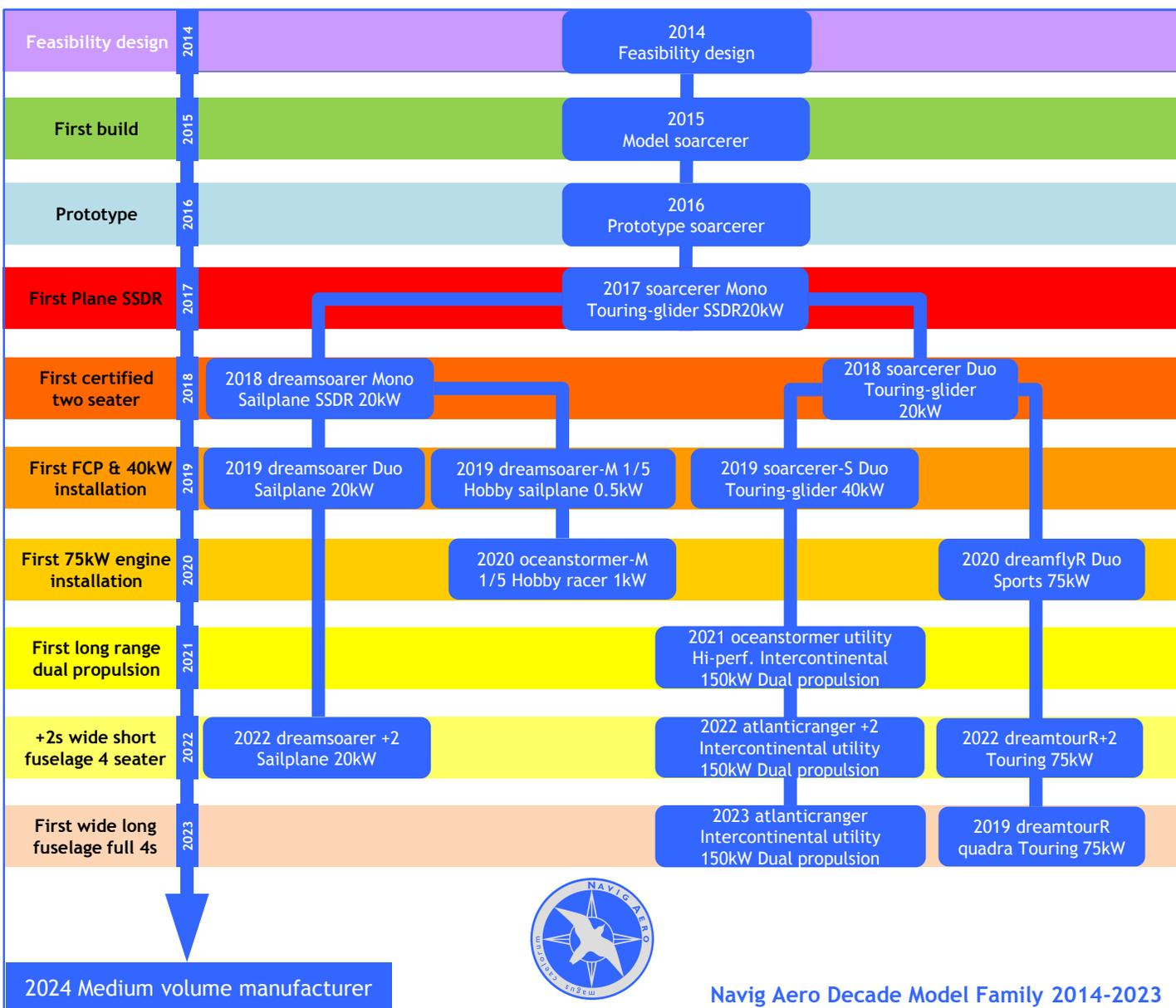
dreamtourR 



dreamsoarer 



Navig Aero Modular Family 2014-2023		Options											
Type of aircraft	Family Name	SSDR	Certification?	Folding paddles	Folding contrapaddles	Small 20kw engine	Medium 40kw engine	Alternative dual 2x20kw	Main 75kw engine	Dual main 2x75kw=150kw	Large tank 80l (standard tank 35l)	Extra dual tanks 2x 50l =100l	Waterwingpods
Touring-glider	soarcerer mono	1	SSDR		FP	20					35l		
Sailplane	dreamsoarer mono	1	SSDR		EI FP	20					35l		
Touring-glider	soarcerer duo	2	Cert		FCP	20					80l		
Touring	soarcerer-S duo	2	Cert		FCP		40 40				80l		WP
Touring	soarcerer +0	2	Cert		FCP		40 40				80l		WP
Sailplane	dreamsoarer duo	2	Cert	EI	FCP	20					35l		
Sailplane	dreamsoarer +0	2	Cert	EI	FCP	20							
Sailplane	dreamsoarer +2	4	Cert	EI	FCP	20					35l		
Sports	dreamflyR	2	Cert		FCP				75		80l 180l	WP	
Fast Touring	dreamtourR +0	2	Cert		FCP				75				
Fast Touring	dreamtourR +2	4	Cert		FCP				75		80l 180l	WP	
Fast Touring	dreamtourR quadra	4	Cert		FCP				75		80l 180l	WP	
Race & intercontinental	oceanstormer	2	Cert		FCP					150	80l 180l	WP	
Intercontinental	atlanticranger +0	2	Cert		FCP					150	80l 180l	WP	
Intercontinental	atlanticranger +2	4	Cert		FCP					150	80l 180l	WP	
Intercontinental	atlanticranger	4	Cert		FCP					150	80l 180l	WP	
<b>Model and future variants</b>													
1/5 Model sailplane	dreamsoarer-M		None	EI		0.25							
1/5 Model racer	oceanstormer-M		None			0.5							
1/5 Model autogyro	ciervaR-M		None			0.5							
1/5 Model rotorcopter	ciervaR-M		None			0.5							
Intercontinental	atlanticranger	6	Cert		FCP					150	80l 180l	WP	
Autogyro	ciervaR	2	Cert		FCP				75		80l		
Autogyro	ciervaR +0	2	Cert		FCP				75		80l		
Rotorcopter	rotacopter	2	Cert		FCP				75		80l	WP	
Rotorcopter	rotacopter +0	2	Cert		FCP				75		80l	WP	
Autogyro	ciervaR-R	2	Cert		FCP					150	80l		
Autogyro	ciervaR-S +0	2	Cert		FCP					150	80l		
Autogyro	ciervaR-S +2	4	Cert		FCP					150	80l		
Rotorcopter	rotacopter-R	2	Cert		FCP					150	80l	WP	
Rotorcopter	rotacopter-S +0	2	Cert		FCP					150	80l	WP	
Rotorcopter	rotacopter-S +2	4	Cert		FCP					150	80l	WP	



dreamtourR

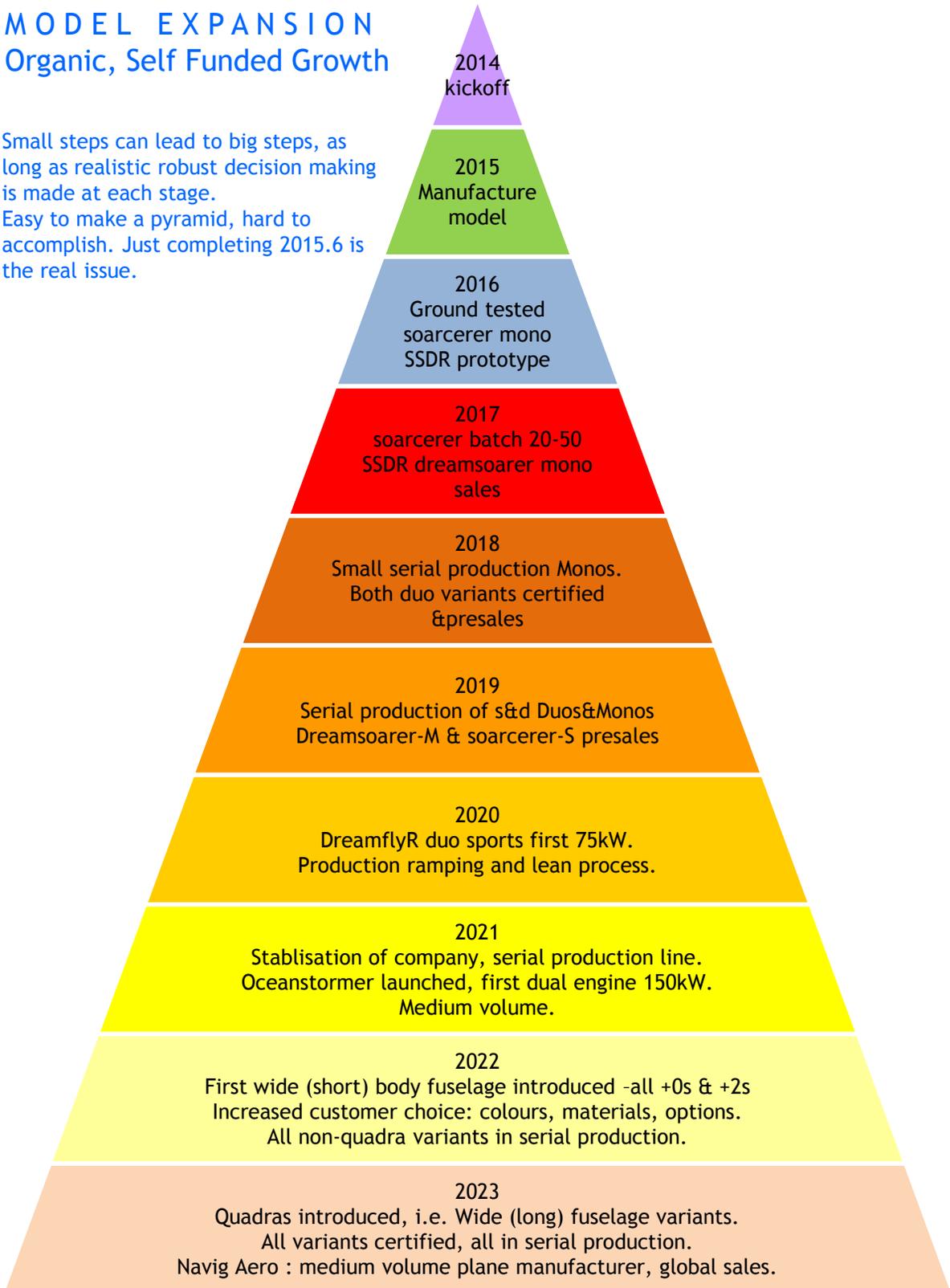


dreamsoarer

# MODEL EXPANSION

## Organic, Self Funded Growth

Small steps can lead to big steps, as long as realistic robust decision making is made at each stage.  
Easy to make a pyramid, hard to accomplish. Just completing 2015.6 is the real issue.





## **D Product and business discussion**

The manufacturing project

Lean production, lean everything

Direct competitor analysis

Sailplane and GA ownership

Profitability with low volume & direct marketing

Making aeroplanes

From CAD concept to 1:1 manufacture-model £40k

# THE MANUFACTURING PROJECT

## Description

The dreamsoarer build technique is suitable for micro, small and small-medium aeroplane building. The technique develops seven key best-in-class advantages which combine to create a commercially attractive aeroplane; best of breed performance with an accessible price.

USPs - the "magnificent seven"

- 1.Safest
- 2.Best value
- 3.Best flying
- 4.Best looking
- 5.Best landing flexibility
- 6.Lowest fuel consumption
- 7.Best ownership proposition

The first proposed aircraft is in the SSDR, weighing around 190kg unladen.  
The dreamsoarer MONO is a single seater self launching SSDR sailplane/tour glider.

## Manufacturing Summary

Manufacturing a commercially successful product in northern Europe, i.e. economically with a margin, presents a massive challenge. Add in; *low volume, mature competitors in a discerning and depressed market* and any new product has a mountain to climb. However, with the right approach and preparation, mountains are climbed.

The dreamsoarer technique creates a significant performance and cost advantage versus contemporary products to enable sophisticated yet realistic build cost. This creates an attractive ownership proposition appealing to a diverse and global customer matrix.

## Business Summary

This project has a structured sequence of modest tranches/buy-ins to refine design and build a full size prototype - all leading to first batch then series production of a family of small aircraft. To commit to the first 50 unit batch run, twenty presales are required using the single prototype as sales hook and the A-Sweep scheme to arrange presales.

The first big step is 12 months funding 2016.7>2015.6 for a 1:1 manufacture-model : £40k.

## Widening the Product Range

Successful manufacturing ventures usually face pressure to increase their product range. Something to consider is this may cannibalise existing sales rather than create conquest sales. However, certification of the *soarcere* (touring-glider) and *dreamsoarer* is a priority, simply because a single seater (SSDR class) aircraft has limited appeal - most people want to share the experience.



# LEAN PRODUCTION, LEAN EVERYTHING

This document is packed with "good news", predicting outstanding performance, product integrity, lowest price and profitability at low volume.

So how can that idealistic combination really be achieved where others have failed?

The route to this ideal product scenario is "lean" everything. Lean marketing, sales and finance has been made possible by the internet. Customer and maker are now connected directly. Orders, payments etc, are now semi-automated.

This leaves manufacturing a lean product. Lean production is a well versed cliché in manufacturing circles but how is it applied in the dreamsoarer?

## Lean Production of Wings

Wing construction is traditionally laborious, intricate and expensive.

We use automated CNC processes and lightweight hybridised materialised to keep cost down but technical performance up.

*Cheap parts yet good materials, cheap assembly yet brilliant result. LEAN.*

## Moderating Tooling Amortisation

Like every manufacturing project, this is subject to amortisation, namely any tooling preparation costs must be paid off according to the production numbers and time limit of that production. This demands an up front investment and a relative leap of faith from the investor that a sales volume will be reached. However, given there is very little tooling on this product, the tool amortisation "ball and chain" is moderately sized, and conceivably controlled and paid by a run of twenty units. Every unit thereafter, earns a percentage profit.

There is scope for state assistance, toward the prototype builds and the purchase of machinery, though this is notoriously time consuming to procure and maintain.

## Lean Product Development

Under the scheme proposed herein, we will develop a manufacture-model prototype for £40,000 - cost that as a normal industrial project and it will come to a minimum of £500,000. However BC will work full time at ¼ rate (£10ph) for a year on this. With the DreamTeam also on board we can be sure the project will be guided by a breadth of twenty people's knowledge, enthusiasm and expertise.

On this basis we can do it!

## DIRECT COMPETITOR ANALYSIS.



<http://www.pipistrel.si/plane/panthera/overview>

Pipistrel make conventional self powered gliders and private planes, i.e. have a product portfolio similar to that proposed herein for Navig Aero.

They are established, make beautiful innovative planes for decent prices.

This looks like a competent and tough competitor, with nice presentation.

Given their established production capacity and base in Slovenia, only a more radical design departure can derive a successful competitor. Trying to emulate their products with a conventional design combined with higher UK base costs will lead to commercial failure.

Many competitors are based in central and eastern Europe and enjoy highly competent low cost workforce and sites. e.g. the Alatus-M self launching ultralight carbon fibre glider built in the Ukraine. A superb SSDR 112kg competitor. <http://www.flylight.co.uk/gliding/index.htm>

A deeper analysis of competitors will be carried out in the first phase by a DreamTeam member. We can be fairly confident however that there is nothing similar to match the dreamsoarer's unique combination of qualities, or at least there is nothing else so good as to render 50 dreamsoarer Mono sales wholly improbable.

Navig Aero Dreamsoarer USPs

- Economic cruise, ExSTOL.
- Pilot Safety cell, fully triangulated airframe, full size and soft landing gear.
- Excellent sailing and thermalling, aerobatic capability, polymorphic wings.
- New economical and high strength wing and airframe production.
- €30,000 ticket price.
- Uninterrupted view, fantastic looking, <200kg.

dreamtourR



dreamsoarer

# SAILPLANE AND GA OWNERSHIP

The purchase of a sailplane is in direct competition for disposable income with many other product spheres from; slate based snooker tables, conservatories, to yachts, cruises and of course direct competitors, some of whom we just discussed.

The dreamsoarer is a "product" for sale at a price that most silver foxes and professionals can afford to buy, brand new. It is a non-essential purely hedonistic device. There is very little out there that can compete with the joy that sailing a plane can bring. However like many hedonistic products, buying a sailplane is a commitment that comes with a long list of ownership negative baggage.

- setup
- storage
- transport
- insurance
- personal risk
- maintenance
- costs and fees
- engine overhauls
- weather dependency
- launching arrangements
- advancing personal sailing skills

Considering the list above, it is little wonder people drift away from hobby flying. Disposable income is hard to come by and will be spent on something that really provides quality of life not ownership headaches.

It is these disadvantages, and the minimisation of them that can make or break a buying decision for a flying enthusiast. While baggage such as weather dependency is unavoidable, the rest of the list can be minimised.

This is what the dreamsoarer must achieve to become commercially successful, *practicality of ownership and desirability in equal measure.*

Thankfully the dreamsoarer will be easy to live with; affordable, safer, beautiful, self launching aerobatic sailplane with high performance and easy to land at a low stall speed. It offers something to match the highly competent Central European conventional competitors.



# PROFITABILITY WITH LOW VOLUME

With harsh market conditions and increasing sophistication of production in cheaper labour markets, manufacturing a globally consumed product in the UK or Scandinavia is a tremendous economic battle. The main manufacturing challenge throughout will be to maintain quality, efficiency and profitability.

It is tough to predict sales volumes, but certainly less than 10 sales per year is unsustainable. With one flying prototype it might be realistic to first procure a block of sales from interested prospects. A minimum of twenty sales would be necessary to kick start batch production without financial risk. The market volume is presently underdeveloped for the simple reason the right product has yet to be created. Let us hope, if we build it, they will come.

A short note on carbon fibre and kevlar; expensive exotic materials offer considerable buyer kudos, thereby raising perceived product sophistication and allowing higher ticket pricing. However these materials dump big costs into the product. GRP is proposed for the mouldings. Specific material choices can be explored later.

Example Bulgarian competitor:  
<http://www.aeroplanesdar.com/>

There remains the alternative opportunity to develop a successful design, and then licence it to existing manufacturers, rather than manufacture it in-house.

## Direct Marketing

Sometimes marketing is about the product, sometimes the product is about the marketing, in this case it is very much the former due to the functional nature of the plane. High performance, competitor beating stats and aesthetics can be leveraged whenever and wherever information is shared with sales prospects.

The main marketing challenge will be to gain worldwide product exposure and the trust of the market within a short space of time from an unknown brand.

Fortunately the internet has brought producer and global consumer into sharp focus worldwide, especially for niche products such as the dreamsoarer. Lean direct marketing and sales is the simplest and most cost effective route. The number one sales tool to invest in is *a beautifully slick website* and secondly well presented infomercials on *YouTube et al.*

Good use of press releases, videos, publically accessible owners forum can all raise the profile of the dreamsoarer without recourse to actual cost outlay marketing. Visits to shows, forum and blogg presence and personal presentations to European clubs, hire companies can be cost effective. "Timeshare" ownership schemes encourage between flying club members. *State procurement agencies remain the best bet for bulk orders to kickstart sales.*

# MAKING AEROPLANES

We are aiming to profitably manufacture small numbers of a self launching sailplane called the Dreamsoarer Mono. This plan takes us from today's CAD concept models to medium volume small plane manufacturer in a decade.

Measured patience in prototype development will lead to a truly optimal design and product result and reduce later costly redesign. However designing something great and producing it are two very related yet different achievements, one is creative, the other requires extreme vigilance and control.

We are aiming to make planes in what will be little more than a high technology shed, using just one or two people.

As the lead designer in the team I am 100% certain this aeroplane will fly well and should find sufficient buyers. What remains our primary challenge from day one to the end of production will be to maintain absolute production quality, even on a bank holiday Friday afternoon at 3.30pm. There can be never be a single bad part, wrong part, short part, long part, bad joint or bad assembly, *ever*.

That demand must be combined with a realistic constrained financial environment. If there are bad planes, customers who put their faith in us and gave us their hard earned disposable income will be killed.

Checking and retaining @100% quality in *everything, always, vigorously and whilst within budget*, is a tough ask. To run a small manufacturing operation sounds harmless enough but quickly becomes a "monster" project :

Logistics, labour issues, storage, problem customers, problem suppliers, problem employees, problem payers, break ins and security, quality problems, warranty issues, unexpected events, project delays. Everything surrounding the running of even a small manufacturing enterprise is considerable.

The reasons for frequent manufacturing failures are usually either making products that people do not want or being consumed by production inadequacies, e.g. circulatory warranty issues or production inefficiency.

These problems are typically caused by a rushed initial design phase.

We hope to avoid this using the expertise of the DreamTeam.

The Dream family of small aircraft is a product people will want, while being truly production friendly from day one, where; production variances, tolerances and costs are screwed down. The dreamsoarer costs less than most rivals and performs better most rivals. Priced around £25,000 it makes an affordable purchase of a fantastically desirable and highly functional object.



## FROM CAD MODEL TO 1:1 MANUFACTURE MODEL £40K

While it is fun to plan the big picture, 2014.7>2015.6 is the most important year of all, despite the modest £40,000 outlay.

2014 will create the base design and detail of the dreamsoarer and then prove it theoretically as a flying device. 2014 has two phases, *feasibility* and *proof of concept*.

Assuming the first *feasibility* phase (£12k) confirms a convincing concept, we can then proceed to *proof of concept* (£28k) in the first half of the 2015 with a 1:1 model built and tested using generic modelled and standard supplier parts.

### Feasibility £12k

This determines the shape and limits of the project, the fourth design iteration. This phase deals with establishing project fundamentals, costs in production, aerofoil selection, basic strength calculations, aeroplane control surfaces and mechanisms, materials, suppliers main parts and virtual flight testing in X-plane.

All the rudimentary elements such as weights, sizes, thicknesses, spatial packaging and relationships of the project are determined and manufacturing questions answered.

### Proof of Concept £28k

The proof of concept phase goes much deeper and seeks to nail down micro detailing.

Proof of concept goes way beyond just building a 1:1 manufacture-model. This is where quotations and consultations are sought from experts regarding aspects of the plane design.

Attention switches from *manufacture / form / airframe* toward *product / usage / maintenance*.

Defining practical details like control cable routing and stabilisation of control surfaces, choosing parts and suppliers.

The concept then starts to become real, real models, real engines, real power delivery issues, real components mixed with plastic/metal sheet/tube real elements and model dummies. While all paper designs "work" we can expect some issues needing ironed out while the model is commissioned. This model is then presented to investors.

### Long term dreaming and future-proofing

Whilst nailing details even in 2014, we should keep in mind everything for the future plane family. Right now these family derivatives seem far off, but at least thinking about them can avoid production restructuring later.

#### Future-proofing:

- Personal configuration, avionics, colours, materials, decals.
- Upgrade components e.g. carbon fibre or trim items.
- Water, ice, snow landing variants.
- Utility aircraft with structural fixing points.
- Powertrain variants even including jet & electric mounting assembly packaging.
- Coast guard, traffic surveillance, VTOL, Medevac, coastal, ocean, land surveillance, surveying, crop spraying, military utilities, rescue, taxi duty, postal, medical, repair/service, veterinary.

State and local authorities in some districts and countries will be the main customers.

Aircraft are not only just playthings, so we should concentrate on building a workhorse utility aircraft platform. A plane that can become a benchmark in utility and adaptability, the way the dreamsoarer family et al is constructed, makes this possible.





## **E Summary**

Business summary

Investment summary

# BUSINESS SUMMARY

Despite weighing under 200kg, the dreamsoarer is a high performance sailplane and aircraft that can perform a number of roles; hobby plane, sailplane, rental plane, observation plane. Self launched, whenever and almost wherever thanks to extreme STOL under 15 meters.

For an unproven CAD concept the dreamsoarer lays down some fine boasts; **best flying, best landing, highest safety, best running costs, best structure.**

When all the bluster of product design and judgement is done, the business survives or fails according to sales. Finding customers that will pay for their own dreamsoarer. Customer willing to forego slick marketing and established big names and literally risk their neck on an unknown brand and unproven product. And we need twenty people like that to justify production kick off.

So is this pie in the sky or profitable niche? This prospectus predicts there will be modest yet sustained demand for this product, ideally around 50 units p.a. or one per week, with a required kick off of 20 presales.

The potential buyer is faced with several key decisions,

- Do I want it? Exceptional performance and aesthetics say yes.
- Can I afford to buy it? With or without finance, price is accessible.
- Can I afford to run it? Lowest insurance and lowest fuel usage mean yes.

To invest you must also be convinced that:

- Production cost can be held under £10,000.
- The design is both realistic and high performance.
- The aircraft can be built safely and weigh less than 200kg.
- People will put their hand in their pockets and buy this product.

If you are also convinced the above points are realistic, it is time to discuss your participation in the project.

With a reasonable demand and concentrated efforts on high tech yet economical production methods, there is scope to create a small manufacturing business. A lean direct marketing effort and equally lean web configured sales process complements the product to create an efficient business model.

Let us not be pessimistic about how to secure those first 20 presales; flying clubs, military trainers, hire firms, plane collectors will all be interested given the price and an opportunity to fly the sales demonstrator themselves.

The dreamsoarer is a genuine ownership proposition; desirable and affordable.

Question : *Do you think the dreamsoarer Mono can be built and sold for £25,000?*

I do.

*Ben Collins Apr 5th 2014.*

# INVESTMENT SUMMARY

The project is currently valued at £200,000 7th December 2013.  
For sale are £40,000 of shares i.e. 20% i.e 20 shares at £2000 per share.

We also anticipate some modest grant funding to assist with full scale prototype costs during 2015, though this is not essential. Any grant contribution will be added to the development "pot" to improve the quality of the manufacture-model.

The target during 2014 is to develop from the current CAD concept models to static manufacture-models and a fully resolved drawing suite. This will constitute proof of concept.

Navig Aero has also created a [DreamTeam Forum](#) to contribute time and energy in a discipline they feel most comfortable with, such as; market analysis, pilot ergonomics, avionics, electrical systems, aerodynamics, hydraulic systems, legislation, funding, finance, administration, secretary, treasurer, data handling, calculations, component hunting.

Investors are expected to attend the quarterly webinars and participate in the forum should they so wish, to provide their input.

If the year is executed successfully, then by Summer 2015 the single goal is to have increased the project valuation from £200,000 to @£400,000.

In 2016 the aim is to build and ground test a full prototype including establishing supplier relationships.

This document sets out both the long term plan and vision, as well as funding for 2014.7-2016.12. However, while we can plan sales, forecasts, margins and factory costs, that will only be fantasising until we reach gate 2015.6, the manufacture model, **something we can sit in, touch, and that will inspire us, investors and future customers.**

For those with deeper pockets, there will be plenty of opportunity for deeper investment and more shares in 2016 and possibly 2017.

- Early investors have first choice on later investment.
- Early investment can be as little as £2,000 or even less if you are part of a group.
- You can sell your share(s) at any time, but offer existing shareholders as first refusal.
- All shares are subject to normal partnership rules in law.
- Finally a word of warning, this could be a rocky ride, with hiccups and delays, we will be going into the unknown, consider this as adventure as much as an investment.

Technical disclosure of the aircraft can be made after NDA signature, contact [BC](#).  
Thanks for reading!

Let's forge a dream into reality and fly it worldwide.

*Join the adventure!*





*dreamsoarer* 

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[www.superfroude.com](http://www.superfroude.com)