FAST©

Finance and Accounting Simulation Tool

VLERICK BUSINESS SCHOOL

FAST

Workbook

Start-up of Aquasail

FINANCING

Aquasail's shareholders provide 14,000 to the company

→ Equity: 14,000

Financial institution grants a loan of 24,000

→ Bank loan: 24,000

Conditions of the bank loan	
Contractual term:	8 years
Repayments:	3,000 (per year, Dec. 31)
Interest:	10% (per year)

INVESTMENTS

Aquasail invests in property, plant & equipment:

→ Land: 4,000

→ Buildings: 8,000

→ Machinery: 4,800

Depreciation table

	Buildings	Machinery
Acquisition value	8,000	4,800
Expected lifetime	20 years	4 years
Annual depreciation	400	1,200
Quarterly depreciation	100	300

Budget Aquasail

	Year 1	Year 2
Budgeted costs		
Direct labour costs per boat	500	…
Raw materials per boat	1,000	…
Services per quarter	800	…
Depreciations per quarter	400	…
Purchase of raw materials		
Quarter I (Q I)	4,000	…
Quarter II (Q II)	6,000	…
Quarter III (Q III)	4,000	…
Quarter IV (Q IV)	4,000	…
Payment terms suppliers (only for suppliers of raw materials; labour and services are always paid cash on delivery)	Year 1, QI & QII : Cash on delivery Year 1, QIII & QIV - Year 2 : 1 quarter payment delay	
Production schedule	4 boats/quarter	2 boats/quarter
Sales price per boat	2,200	…
Sales	Total sales : 11 boats	Total sales : … boats
Quarter I	4 boats	… boats
Quarter II	3 boats	… boats
Quarter III	2 boats	… boats
Quarter IV	2 boats	… boats
Payment terms customers	Year 1, Q I – Q III : Cash on delivery Year 1, Q IV & Year 2 : 1 quarter payment delay	
Profit distribution	No dividend payments; all profits are retained	
Other changes in the second year		… *(extra debt repayment)*

Cash Book Aquasail (Cash Flow Statement)

Cash inflow		Cash outflow		Cash balance
Description	Amount	Description	Amount	
Equity	…			…
Bank debt	…			…
		Land	…	…
		Buildings	…	…
		Machinery	…	…

Balance Sheet Aquasail

Assets		Equity & Liabilities	
Cash	…	Equity Capital	… …
Total Assets	**…**	**Total Equity & Liabilities**	**…**

Assets		Equity & Liabilities	
Cash	…	Equity Capital Long term liabilities Bank debt	… …
Total Assets	**…**	**Total Equity & Liabilities**	**…**

Assets		Equity & Liabilities	
Land	…	Equity Capital	… …
Buildings	…		
Machinery	…	Long term liabilities Bank debt	… …
Cash	…		
Total Assets	**…**	**Total Equity & Liabilities**	**…**

Cash Book (Cash Flow Statement) Aquasail YEAR 1

Cash at start	21,200

	Cash inflow	Cash outflow	Cash balance
Quarter I		*R. M. Q1* ...	...
		Labour ...	...
		Services ...	...
	Sales Q1 ...	...	...
Quarter II		*R. M. Q2* ...	...
		Labour ...	...
		Services ...	...
	Sales Q2 ...		
Quarter III		*Labour* ...	...
		Services ...	...
	Sales Q3 ...		
Quarter IV		*R. M. Q3* ...	
		Labour ...	
		Services ...	

Cash at end	...

Cash Book Aquasail – 31/12 YEAR 1

Cash balance	...

Cash inflow	Cash outflow	Cash balance
	Interests ...	...
	Repayment ...	...
	Taxes ...	...

Cash at end	...

Profit & Loss Statement Aquasail – YEAR 1

Operating Revenues

	Q I	Q II	Q III	Q IV
Sales	…	…	…	…

Operating Costs

	Q I	Q II	Q III	Q IV
Raw materials used	…	…	…	…
Labour costs	…	…	…	..
Services	…	…	…	…
Depreciations	…	…	…	…
Total cost of production	…	…	…	…
+ / - Inventory changes finished goods	0	…	…	…
Cost of goods sold	…	…	…	…

Operating Profit (EBIT)	…	…	…	…	…

FULL YEAR

Profit & Loss Statement Aquasail – YEAR 1 (ctd.)

Operating Profit (EBIT)	**...**
- Interest Costs	-...
Profit/Loss Before Tax	**...**
- Taxes (40%)	-...
Profit/Loss After Tax	**...**

Balance Sheet Aquasail – 31/12 YEAR 1

Assets		Equity & Liabilities	
Fixed Assets	**...**	**Shareholders' Equity**	**...**
Land	...	Capital	...
Buildings	...	Retained profits	...
Machinery	...		
Current Assets	**...**	**Liabilities**	**...**
Inventories		Long term debt	...
- Raw materials	...	Bank debt	...
- Finished goods	...		
Accounts receivable	...	Current debt	...
Cash	...	Bank debt	...
		Accounts payable	...
Total Assets	**...**	**Total Equity & Liabilities**	**...**

Cash Book (Cash Flow Statement) Aquasail YEAR 2

Cash at start *(10,200 -9,000)*	1,200

	Cash inflow	Cash outflow	Balance
Quarter I	*Sales Q4* ...		...
		R. M. Q4 ...	...
		Labour ...	...
		Services ...	...
Quarter II	*Sales Q5* ...		...
		R. M. Q5 ...	...
		Labour ...	...
		Services ...	...
Quarter III	*Sales Q6* ...		...
		R. M. Q6 ...	...
		Labour ...	...
		Services ...	...
Quarter IV	*Sales Q7* ...		...
		R. M. Q7 ...	...
		Labour ...	...
		Services ...	...

Cash at end	...

Cash Book Aquasail – 31/12 YEAR 2

Cash balance	...

Cash inflow	Cash outflow	Balance
	Interests ...	...
	Taxes ...	...
	Repayment ...	...

Cash at end	...

Profit & Loss Statement Aquasail – YEAR 2

Operating Revenues

	Q I	Q II	Q III	Q IV
Sales	…	…	…	…

Operating Costs

	Q I	Q II	Q III	Q IV
Raw materials used	…	…	…	…
Labour costs	…	…	…	…
Services	…	…	…	…
Depreciations	…	…	…	…
Total cost of production	…	…	…	…
+ / - Inventory changes finished goods	…	…	…	…
Cost of goods sold	…	…	…	…

Operating Profit (EBIT)	…	…	…	…	…

FULL YEAR

Profit & Loss Statement Aquasail – YEAR 2 (ctd.)

Operating Profit (EBIT)	**...**
- Interest Costs	-...
Profit/Loss Before Tax	**...**
- Taxes (40%)	-...
Profit/Loss After Tax	**...**

Balance Sheet Aquasail – 31/12 YEAR 2

Assets			Equity & Liabilities		
Fixed Assets		**...**	**Shareholders' Equity**		**...**
Land	...		Capital	...	
Buildings	...		Retained profits	...	
Machinery	...				
Current Assets		**...**	**Liabilities**		**...**
Inventories			Long term debt		...
- Raw materials	...		Bank debt	...	
- Finished goods	...				
Accounts receivable	...		Current debt		...
Cash	...		Bank debt	...	
			Accounts payable	...	
Total Assets		**...**	**Total Equity & Liabilities**		**...**

Aquasail's Liquidity

	Year 1	Year 2
Current Ratio = $\frac{\text{Current Assets}}{\text{Current Debt}}$	..... / ..... = ...	... ... / ... . = ...
Acid Test = $\frac{\text{Accounts Receivable + Cash}}{\text{Current Debt}}$	... . / ... . = ...	... ... / ... ... = ...
Working Capital = Current Assets - Current Debt	..... - ..... = ...	..... - ..... = ...
Working Capital Requirement = Accounts Receivable + Inventories - Accounts Payable	..... + ... - ..... = ...	..... + ... - ..... = ...

Aquasail's Profitability – YEAR 1

ROA

Margin	=	Operating Profit / Sales	=	..... /	=	..... %	Return On Assets (ROA)
x						x	
Assets Turnover	=	Sales / Assets	=	..... /	=	.....	.....%

Financial Leverage

ROA					=	.....%	Financial Leverage
–					–		
Average Cost of Debt	=	Interest Costs / Debt	=	..... /	=	.....%	-.....%
						x	
Debt / Equity			=	..... /	=	.....	-.....%

ROE before tax

ROE (before tax)	=	Profit before tax / Equity OR ROA + Financial Leverage	=	.... OR .....% + (-.....%)	ROE before tax .....%

ROE after tax

ROE (after tax)	=	Profit after tax / Equity	=	..... /	ROE after tax .....%

Aquasail's Profitability – YEAR 2

ROA

Margin	=	Operating Profit / Sales	=	…… / ……	=	……%	Return On Assets (ROA) ……%
x						x	
Assets Turnover	=	Sales / Assets	=	…… / ……	=		

Financial Leverage

ROA					=	……%	Financial Leverage ……%
–					–		
Average Cost of Debt	=	Interest Costs / Debt	=	…… / ……	=	……%	……%
						x	
Debt / Equity			=	…… / ……	=	……	

ROE before tax

ROE (before tax)	=	Profit before tax / Equity	=	…… / ……
		OR		OR
		ROA + Financial Leverage		…… % + ……%

ROE before tax …….%

ROE after tax

ROE (after tax)	=	Profit after tax / Equity	=	…… / ……

ROE after tax …….%

Aquasail's Cash Flow

	Year 1	Year 2
Cash flow		
= Revenues – Cash costs		
= Profit (after tax) + Depreciations	= ..... + ... = ...	= .....+ ..... = ...

Aquasail's Solvency

	Year 1	Year 2
Debt Ratio = $\frac{\text{Debt}}{\text{Assets}}$	..... / ..... = ...%	..... / ..... = ...%
Financial Debt Coverage = $\frac{\text{Cash Flow}}{\text{Financial Debt}}$	..... / ..... = ...%	..... / ..... = ...%
Current Financial Debt Coverage = $\frac{\text{Cash Flow}}{\text{Current Financial Debt}}$	..... / ..... = ...%	..... / ..... = ... %