



SHELL TECHNOLOGY VENTURES

ROLE OF CORPORATE VENTURE CAPITAL IN OIL & GAS

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INTRODUCTION SHELL TECHNOLOGY VENTURES (STV)

- First O&G corporate venturing fund (1998)
- Fund 2 raised in 2013
- 11 investments to-date
- O&G, renewable energy and IT
- Balance between direct returns and deployment value
- Focus on deployment of new technologies in Shell
- Minority interests only
- Syndicate with VC's and corporates
- May take board seats or observers
- Per investment: \$2-5 mln initial; \$10-15 mln total



TECHNOLOGY MATURATION IN OIL & GAS

30+ YEARS GTL DEVELOPMENT



1973

- Laboratory Amsterdam
grams/ d



1983

- Pilot plant Amsterdam
3 bbl/ d



1993

- Bintulu Malaysia
current capacity
14,700 bbl/ d



TODAY

- Pearl GTL Qatar
140,000 bbl/ d

WHY WE DO CORPORATE VENTURING

- Some smart people have escaped us!
- Speed and cost of innovation
- Competition with internal R&D
- First mover advantage
- 'Eyes and ears' to spot disruptive market trends
- Building a portfolio of renewable energy options
- Supply chain challenges

WHAT DO WE OFFER THE ENTREPRENEUR?



Pilots and demo's + launching customer



10,000's of technical experts



Test laboratories and Joint R&D



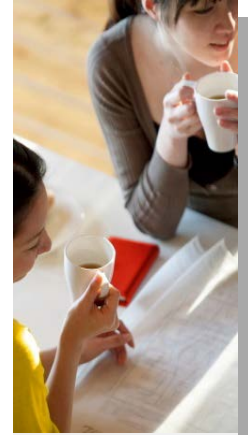
Access to customer base



Supply chain network (low cost manuf. capability)

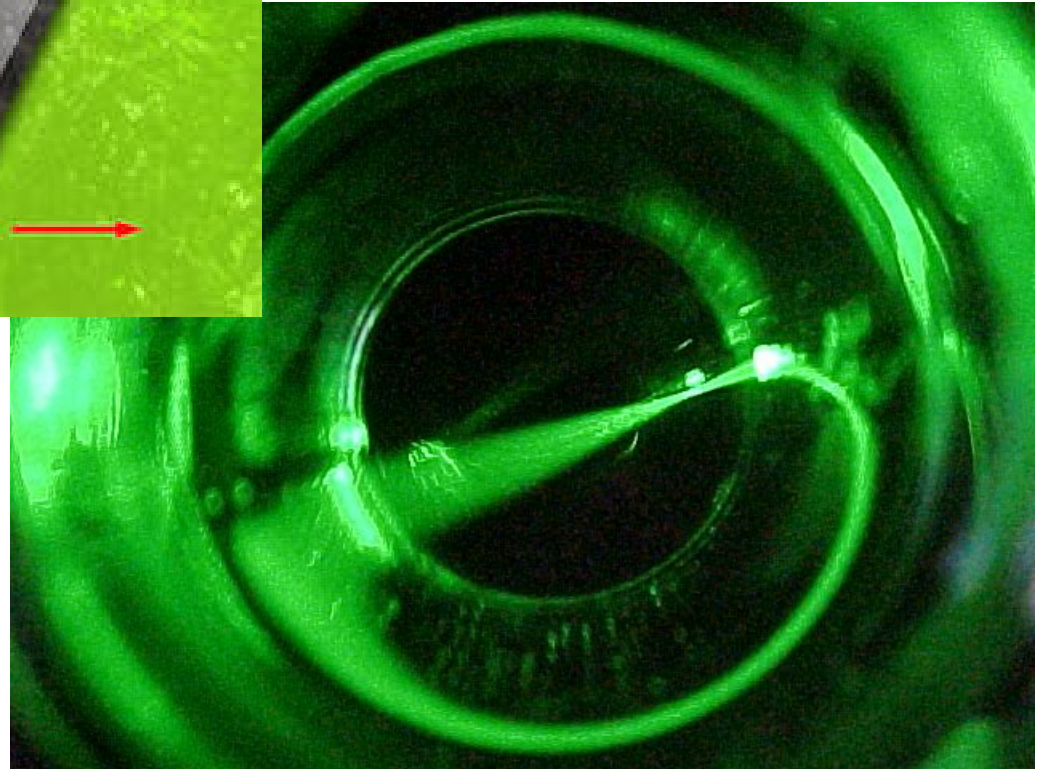
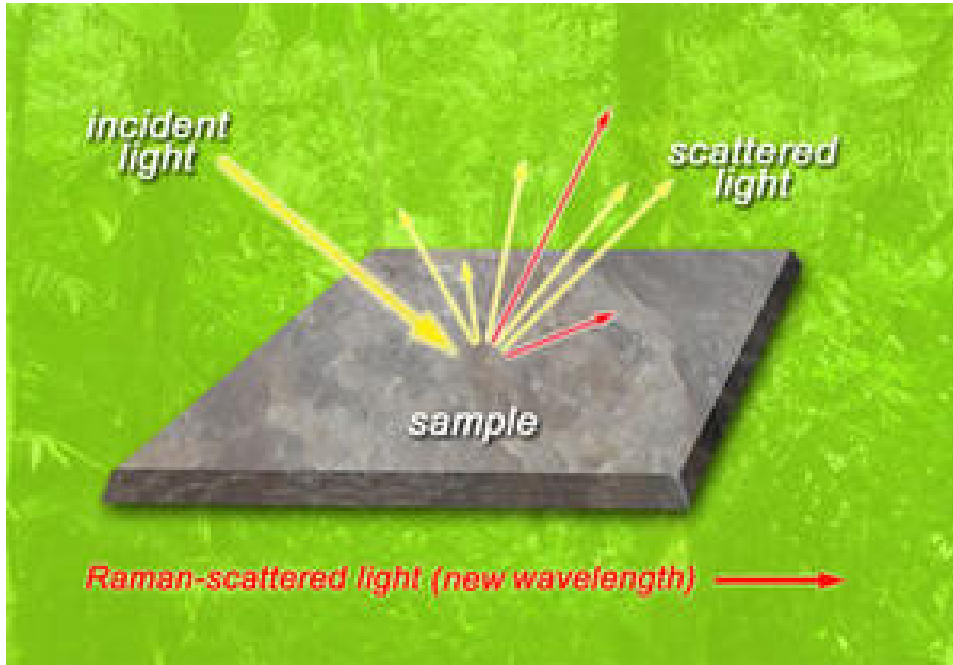


Facilitate exits

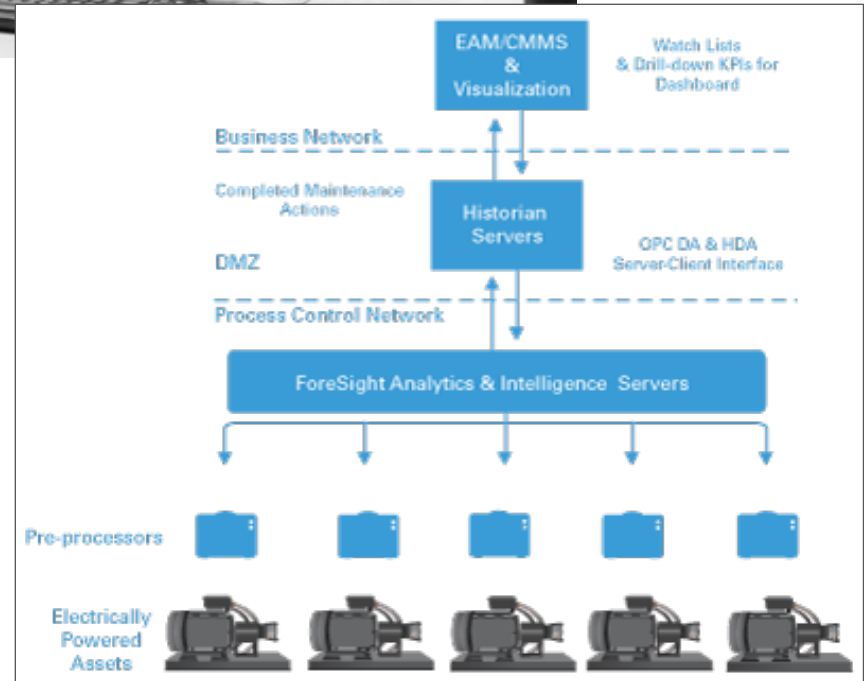


Financing

WELDOG: RESERVOIR RAMAN SPECTROSCOPY






VEROS: ELECTRICAL WAVEFORM MONITORING



BACK UP

SHELL TECHNOLOGY VENTURES FUNDS

SHELL TECHNOLOGY VENTURES			STV / FET
TECHNOLOGY SCANNING FUND	3P TECHNOLOGY ACCELERATION FUND	SHELL TECHNOLOGY ACCELERATION FUND	FET ACCELERATION FUND
Participate in funds of funds	Acquire or gain access to 3rd party technologies	Commercialize Shell IP with others	Access to FET technologies
LP positions			Opex & Capex
			
Access deal flow to identify technologies of the future	Accelerate innovation and deployment	Leverage 3rd party resources and accelerate deployment	Build a portfolio of future options
DEPLOY INNOVATION FASTER AND CHEAPER			
STV represents Shell's interests in Shell Technology Ventures Fund 1, which is managed by an independent, outside Fund Manager: Kenda Kapital			

BUILD VS BUY



	Proprietary R&D	GameChanger	STV	STW	Contracting & Procurement
Creation effort	Self creation	Co-creation between Supplier and Shell	Technology development support from Shell	Integration of existing technologies + Pilots	Supplier created product, but some Shell effort in qualification
Time to full commercialization	Long (5-12 yrs)	Long (5-12 yrs)	Medium (2-7 yrs)	Short (0-2 yrs)	Short (0-2 yrs)
Means of financing	Corporate or OU financed	Sponsoring prototyping + seed capital	Venture capital + seed capital	Corporate or OU financed	Supplier financed
Exclusivity	100% exclusivity	Some level of exclusivity			No exclusivity
Control	100% Shell controlled	Project Management by Shell	Shell board seats or board observers	Project Management by Shell	Shell Contract & Category Management
Agreements	Cost sharers agreement or OU agreement	JDA + royalties (sometimes warrants)	SPA + JDA + supply agreement	JDA + supply agreement	Supply agreement