1501 - Acsis - Distributed Software (WIN)	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 10 Articles Patent searches: 10 patents	2015
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
CPU Hardware limitations : 100 MHz	
Data accuracy: 99.9 % correct	
Response time: 15 seconds / query	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
node and master behaviour	Y
sequence & subscription strategies	
	METHODS
Analysis	854
Trials	1400
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

1702 - Novalia (Wind turbines) (LOSS)	
BENCHMARKS	**ACTIVITIES BY YEAR**
Patent searches: 11 patents	2017
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
Turbine power increase: 240 %	
UNCERTAINTIES & KEY	**CONCLUSIONS**

VARIABLES	
1 - Technological uncertainty	
blade shapes & orientations	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	550.00
Materials $	12000.00
Subcontractor $	

1704 - Lifechoice (LOSS)	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 36 Articles Suppliers: 8 products Queries to experts: 5 responses	2017 1-1 Activity 1
OBJECTIVES	**RESULTS**
Arterial plaque reduction: 95 %	98
Replace intravenous with oral: 1 Yes 1/ No 0	0
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
antagonistic effects of ingredients	
EDTA vs DMSA	
effects of chelation process	
	METHODS
Analysis	100
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	200.00

Materials $	
Subcontractor $	

1705 - Formadrain liner development (WIN)	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 3 Articles Similar prior in-house technologies: 4 products / processes	2017 1-1 Activity 1
OBJECTIVES	**RESULTS**
Thickness: 4 mm	
Steaming time to activate: 60 min	70
Open time : 60 days	62
Cost : 65 $/m	70
Diameter range: 15 cm	15
Weight: 2.6 kg/m	3.1
Stress resistance: 11 kg/mm	9
Disposable mandrel: 1 yes = 1 / no = 0	1
Access points for mandrel: 1 number	1
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
chuck design	Y
composition of form	Y
mandrel configurations & composition	Y
push vs pull deployment	Y
resin formulation	
	METHODS
Analysis	460
Trials	23
Prototypes	8
Lines of code	

	COSTS
Hours	1072.00
Materials $	38800.00
Subcontractor $	23500.00

1706 - Flavornet (LOSS)			
BENCHMARKS	**ACTIVITIES BY YEAR**		
Internet searches: 10 Articles Patent searches: 1 patents	2017		
	1-1	1-2	1-3
	Research as described TCC judgment	Questions on witness credibility	5 questions
OBJECTIVES	**RESULTS**		
Sterol solubility: 40 mg/oz	22		
Shelf life: 12 months	12		
Suspension fall out: 2 %	38		
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**		
1 - Technological uncertainty			
emulsifier integration	Y		
ingredients	Y		
shearing methods	Y		
temperatures	Y		
	METHODS		
Analysis	122		
Trials	8		
Prototypes			
Lines of code			
	COSTS		
Hours	346.00		
Materials $	6300.00		
Subcontractor $	2500.00		

1710 - Defining software technology	
BENCHMARKS	**ACTIVITIES BY YEAR**

(none)	2017		
	1-1	2-1	3-1
	Big data examples	Technology vs. features	Ineligible activities
OBJECTIVES	**RESULTS**		
Reliability: 99 %	88		
Scalability: 8500 %	4400		
Availability: 99.9 %	99.3		
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**		
1 - O/S design issues			
kernel - process, memory & I/O mgmt	Y		
process mgmt - scheduler lists & queues	Y		
2 - Micro processors			
compilers		Y	
Interface		Y	
linkers		Y	
programming languages		Y	
3 - Other areas			
big data methods (store, process, manage)			
improved infrastructure options			
scaling, reliability & availability options			
technology stack or tool designs			
vision design options			
	METHODS		
Analysis	250	147	
Trials	17	13	
Prototypes		7	
Lines of code		14800	
	COSTS		
Hours	100.00	250.00	
Materials $			

Subcontractor $			

1713 - Artificial Intelligence (AI)		
BENCHMARKS	**ACTIVITIES BY YEAR**	
Internet searches: 1 Articles	2017	
	1-1	2-1
	Specific vs General Objectives	Heuristic design
OBJECTIVES	**RESULTS**	
Learn new methods: ?		
Achieve results: ?		
Optimality: %		
Completeness: %		
Accuracy and precision: %		
Execution time: 2.2 seconds		
Virus scanning: 99.8 %		
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - Technological uncertainty		
Data sets & structures	Y	
Hardware (architectures, devices...)	Y	
Heuristics for decision making		
SPECIFIC DETAILS ON		
2 - Heuristics (computer science)		
admissibilities		
combinations		Y
types - top down, inferred, rule of thumb		
	METHODS	
Analysis	60000000	
Trials	1	
Prototypes		
Lines of code		
	COSTS	
Hours		

Materials $		
Subcontractor $		

1801 - Mac & Mac pipe liner removal process (LOSS)		
BENCHMARKS	**ACTIVITIES BY YEAR**	
Internet searches: 3 Articles Patent searches: 8 patents	2017	
	1-1	2-1
	Hydraulicing to remove entire lining	Milling method to remove only plastic lining
OBJECTIVES	**RESULTS**	
Remove 2 layers of liner: 1 1=Yes / 0 =No	1	
Remove only inner liner: 1 1=Yes / 0=No		1
Avoid pipe damage: 2 mm	3	2
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - Removing entire lining		
length of nozzle arms		
nozzle size & distance		
nozzle speed, spin, rotation		
water pressures & spray angles		
2 - Removing plastic liner		
differing simultaneous water pressures		
number of passes		
pipe rotation speeds & directions		
	METHODS	
Analysis		100
Trials		50
Prototypes		8
Lines of code		
	COSTS	
Hours		
Materials $		

Subcontractor $		

1810 - Software example - consensus mechanism CRA 2018	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 17 Articles Competitive products or processes: 6 products	2018 1-1 Activity 1
OBJECTIVES	**RESULTS**
Energy efficiency: 15 kw/h	25
Scalabilty: 100000000 # total nodes	110000000
Reduce redundant operations: 5 %	11
Achieve FAIR distribution among nodes: 95 % accuracy	97
Reduce message overhead: 40 %	23
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Adapt backoff mechanism	
dynamicity (# of joins & leaves)	Y
neighbourhood size & definition	Y
number of nodes	Y
propogation radius	Y
single POW vs multiple blockchain channels	Y
	METHODS
Analysis	17
Trials	438
Prototypes	3
Lines of code	7300
	COSTS
Hours	1940.00
Materials $	
Subcontractor $	

1901 - A&D Precision “Full spectrum versatile horizontal lathes” (WIN)

BENCHMARKS	ACTIVITIES BY YEAR		
	2006	2007	2008
Internet searches: 1 Articles Patent searches: 5 patents	1-1	1-2	1-3
	Adapt Tachi lathes	Design 80 ton lathe	Design 80, 60 & 40 ton lathes
OBJECTIVES	**RESULTS**		
supported workpiece max.: 100 tons			
unsupported workpiece max. : 80 tons			
length of workpiece: 13 m			
precison of finish : 2 thou./in			
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**		
1 - Technological uncertainty			
methods to control inertia & deflection		Y	Y
welded vs cast iron structure		Y	Y
	METHODS		
Analysis			
Trials			
Prototypes			
Lines of code			
	COSTS		
Hours			
Materials $			
Subcontractor $			

1902 - A&D precision - Double wheel roll grinding machine (WIN)	
BENCHMARKS	**ACTIVITIES BY YEAR**
	2006
Internet searches: 20 Articles Queries to experts: 1 responses	1-1
	2006 to 2008 development
OBJECTIVES	**RESULTS**

Cost: $	
Accuracy: thou	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
method to move wheel	Y
preventing spindle overheating	Y
vibration control methods	Y
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2003 - CRL Engineering - distributed computing (WIN)	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2020
	1-1
	Development
OBJECTIVES	**RESULTS**
Accuracy of data: %	
Autonomous system: 1 1=yes / 0= no	
General purpose equipment: 1 1=yes / 0=no	
Distributed data: 1 1=yes / 0=no	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
characteristics physically distributed GP equip	

use of autonomous system	
	METHODS
Analysis	
Trials	10
Prototypes	
Lines of code	
	COSTS
Hours	1000.00
Materials $	
Subcontractor $	

2010 - Beton Mobile WINS- 3 OF 6 PROJECTS	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 20 sites / articles Patent searches: 2 patents Competitive products or processes: 3 products Similar prior in-house technologies: 1 products / processes Suppliers: 3 products Queries to experts: 4 responses	2020 1-1 Activity 1
OBJECTIVES	**RESULTS**
Durability: x	
air: x	
slump: x	
temperature : x	
density / compression): x	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	

Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2011 - 10-18: Develop a light self-compacting mortar for mobile concrete mixer	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2020
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	34.00
Materials $	427.00
Subcontractor $	360.00

2013 - 11-07: Developing an ultra-fast setting mortar for installation in a marine environment	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2020
	1-1
	Activity 1
OBJECTIVES	**RESULTS**

(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	30.00
Materials $	394.00
Subcontractor $	

2016 - 12-07: Development of repair product for roller compacted concrete	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2020
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	102.00
Materials $	494.00
Subcontractor $	1917.00

2020 - Beton Mobile LOSSESS (3 OF 8 PROJECTS)	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2020
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2021 - B-10-12: Development of cavernous concrete with a high vacuum content.	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 1 Articles	2020
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
Vacuum content (void %): 35 %	35
reduce water run off to city: %	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
how to achieve vacuum content 35%	

integration with draining concrete	
	METHODS
Analysis	
Trials	1
Prototypes	1
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2022 - B-11-01: Study of permeability to chloride ions and durability with various pozzolanic additions and	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 1 Articles	2020
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
chlorine penetration: 2500 coulombs	2800
compression resistance: x	
spalling: x	
freeze thaw stability: x	
air bubble distribution: x	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
adding pozzolan	
effects of latex	
modify mixing method	
	METHODS
Analysis	
Trials	15
Prototypes	

Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2023 - B-12-02 Improvement of quick setting self-compacting concrete	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2020
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
Cause of aggregate segregation: 1 yes =1 or no = 0	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
effects of colloidal agents	
effects of plasticizers	
setting agents	
WATER CONTENT & CONTAMINANTS	
	METHODS
Analysis	4
Trials	4
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2101 - Andre Lamy MPC - Directly Engaged (WIN)		
BENCHMARKS	**ACTIVITIES BY YEAR**	
Competitive products or	2021	2022

processes: 56 products Similar prior in-house technologies: 5 products / processes Queries to experts: 12 responses				
	1-1	2-1	3-1	1-2
	Coronary project	Compass - effects Rivaroxaban on cardiac patients	Who performed the SR&ED?	2022 development
OBJECTIVES	**RESULTS**			
On pump primary composite outcome CABG: 13 %	13.3			
Off pump primary composite outcome CABG: 13 %	12.1			
On pump repeat coronary revascularization: 0.5 %	0.8			
Off pump repeat coronary revascularization: 0.5 %	1.4			
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**			
1 - Coronary project - on vs. off pump factors				
Cerebrovascular disease	Y			
Effect of diabetes	Y			
Euroscore	Y			
Left ventricular function: Grade 1 to 4	Y			
Number of vessels diseased				
2 - Compass project				
factors affecting Rivaroxaban				
3 - Whether "directly engaged"				
No				
Yes			Y	
	METHODS			
Analysis	2	1		
Trials	4752	27000		
Prototypes		2		
Lines of code				
	COSTS			
Hours	500.00	180.00		

Materials $				
Subcontractor $				

2102 - Indusol - marine software & SI (LOSS)				
BENCHMARKS	**ACTIVITIES BY YEAR**			
Internet searches: 10 Articles Similar prior in-house technologies: 2 products / processes	2021			
	1-1	1-2	2-1	2-2
	Technological Uncertainty (TU) Existed	Lack of Systematic investigation	Tracking labour expenses	Software as material cost? (NO)
OBJECTIVES	**RESULTS**			
maximum draft: 8.15 m				
UKC “under-keel clearance”: 30 cm				
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**			
1 - 5 Questions - Technological Uncertainty vs. Systematic Investigation				
How to measure velocity of current in real time				
Squat for vessels at differing speeds	Y			
Squat formula for different sections of channel	Y			
2 - Financial issues				
documentation of time vs. activities			Y	
is software eligible SR&ED material				Y
	METHODS			
Analysis				
Trials	50			
Prototypes				
Lines of code				
	COSTS			
Hours	800.00			
Materials $				

Subcontractor $				

2103 - National R&D - software & SI (LOSS)			
BENCHMARKS	**ACTIVITIES BY YEAR**		
Internet searches: 3 Articles Internet searches: 1 Articles Internet searches: 1 Articles Competitive products or processes: 3 products Suppliers: 1 products	2021		
	1-1	2-1	3-1
	techniques for paging, sorting & indexing	pivot output mechanism	deterministic and stateful client-side control
OBJECTIVES	**RESULTS**		
deterministic and stateful client-side control.: 1 0 = no 1 = yes			1
develop pivot output mechanism: 1 0=no 1 = yes		0	
response time: 5 seconds	5		
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**		
1 - paging, sorting & indexing method			
ADO, Classic ASP, COM+ and SQL Server 2000	Y		
MTA limitations of framework	Y		
2 - develop pivot table mechanism			
static vs.dynamic environment			
web browser deployment methods		Y	
3 - stateful client control			
section variables and cookies			
	METHODS		
Analysis		5	
Trials	50	3	5
Prototypes			
Lines of code			
	COSTS		
Hours	350.00	220.00	180.00
Materials $			

Subcontractor $			

2200 - Allegro Wireless OVERVIEW (WINS - 3/3 projects telcom)		
BENCHMARKS	**ACTIVITIES BY YEAR**	
(none)	2022	
	1-1	2-1
	CRA approved doc system	Roles of Expert witnesses
OBJECTIVES	**RESULTS**	
Throttling mechanism: 64 KB		
Concurrency : 1000 users		
supported hand held devices: 500 number		
supported printers: 300 number		
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - Bug vs. Quirk vs. SR&ED		
Bug vs Quirk	Y	
If Quirk - whether SR&ED?	Y	
2 - Backgrounds of Witnesses		
Cost vs. benefit		Y
Exclusionary rules		
Necessity		Y
Proper qualification		Y
Relevance		Y
	METHODS	
Analysis		
Trials		
Prototypes		
Lines of code		
	COSTS	
Hours		
Materials $		
Subcontractor $		

2201 - Allegro - Protocol Compliant Methods to

Extend Bluetooth Functionality	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 10 Articles	2022
Patent searches: 5 patents	1-1
Competitive products or processes: 2 products Similar prior in-house technologies: 3 products / processes Queries to experts: 2 responses	year 1
OBJECTIVES	**RESULTS**
Maximum buffer use: 64 K	62
Fidelity (relevant info retained): 90 %	83
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
“lossy-type scenario” (less data)	Y
buffer overrun - speed vs. clearing	Y
proprietary systems - blackbox issues	Y
throttling - time vs. rate vs. % compression	Y
transparent compression methods	Y
	METHODS
Analysis	14
Trials	6400
Prototypes	
Lines of code	
	COSTS
Hours	650.00
Materials $	
Subcontractor $	

2202 - Allegro - Optimize TCP Services over Cellular Networks	
BENCHMARKS	**ACTIVITIES BY YEAR**

Internet searches: 20 Articles	2022	
	1-1	2-1
	Activity 1	Supporting Activity
OBJECTIVES	**RESULTS**	
Scalability: %		
Throughput: MB		
Reduce TCP timeouts: number		
Reduced data vs TCP: 55 %	52	
supported devices: 500 number	500	
Minimum timeout : 1 minutes	2	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - Byte array pool		
causes low package througput		
eliminating buffer under runs	Y	
parameters relevant to digital audio transmission	Y	
unsafe attributes checking vs speed	Y	
2 - Synchronous event wrapper		
firewall and deep packet inspection		Y
packet loopback process		Y
parallel session process		Y
redesign legacy hardwire code for wireless		Y
sync vs async events		Y
	METHODS	
Analysis	3	
Trials	14000	
Prototypes		
Lines of code		
	COSTS	
Hours	500.00	550.00
Materials $		
Subcontractor $		

2203 - Allegro - Multi-point Integration Platform for Mobile Applications	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 10 Articles	2022
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
distributed transaction timeout: 1 1= yes/ 0 = no	1
intelligent packet routing: 1 yes = 1 / no = 0	1
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - necessary wait times	
filtering methods vs. latency vs. ...	Y
timeout length vs. queuing mechanisms	Y
	METHODS
Analysis	
Trials	1400
Prototypes	
Lines of code	
	COSTS
Hours	820.00
Materials $	
Subcontractor $	

2211 - Airzone - WIN Optimizing Passive Monitoring of Low-Concentration Compounds	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 5 Articles Suppliers: 1 products	2022
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
Detectable	52

compounds: 52 number	
single protocol for 8 items: 1 protocols	1
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
chromatographic variables	Y
extraction times	Y
solvent polarity vs. aromatic hydrocarbons	Y
	METHODS
Analysis	
Trials	10
Prototypes	
Lines of code	
	COSTS
Hours	870.00
Materials $	3370.00
Subcontractor $	

2212 - Airzone - LOSS Solving Combustion Issues to Develop Artificial Smouldering	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2022
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
measure emissions: % expected	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
identify compounds	Y
	METHODS
Analysis	
Trials	25
Prototypes	1

Lines of code	
	COSTS
Hours	323.00
Materials $	2750.00
Subcontractor $	

2215 - Global Sustainable - Efficient home - LOSS	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2022
	1-1
	House construction
OBJECTIVES	**RESULTS**
Energuide efficiency rating: 90 %	91
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
effects of natural force interactions	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2216 - Logix Data (solar panels) - LOSS	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2022
	1-1
	Activity 1
OBJECTIVES	**RESULTS**

Cost: $	
Performance: 250 W/m2	
Snow load: kg	
Windload: km/h	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2217 - WD Borger - Pressure activated removable plugs for large box culverts.	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2022
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
hoop stress	
water head pressure	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	

	COSTS
Hours	
Materials $	
Subcontractor $	

2220 - Beton Workshop OVERVIEW (LOSS 2/2 projects)	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2022
	1-1
	lack of "systematic investigation"
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2221 - Beton - transportable concrete modular panels		
BENCHMARKS	**ACTIVITIES BY YEAR**	
(none)	2022	
	1-1	2-1
	Claimant arguments	Expert witness rebuttal
OBJECTIVES	**RESULTS**	
Thickness: 0.5 inches	0.5	
Strength: 100 %	100	

UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - As claimed = LOSS		
additives		
casting process		
fibres types - weight, porosity, strength		
ingredient proportions		
2 - Documentation weaknesses		
	METHODS	
Analysis		
Trials		
Prototypes		
Lines of code		
	COSTS	
Hours		
Materials $		
Subcontractor $		

2222 - Beton - mixing and pouring concrete floors		
BENCHMARKS	**ACTIVITIES BY YEAR**	
Suppliers: 2 products	2022	
	1-1	2-1
	Claimant arguments	Expert witness critique
OBJECTIVES	**RESULTS**	
Compressive strength: 50 mPa	50	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - As Claimed = LOSS		
additives		
casting methods		
2 - Ideas per Expert witness		
cement types		
fibre types		

setting times		
super plasiticers & foaming agents		
water types and amounts		
	METHODS	
Analysis		
Trials	10	
Prototypes		
Lines of code		
	COSTS	
Hours		
Materials $		
Subcontractor $		

2301 - Buhler - Tractor design WIN		
BENCHMARKS	**ACTIVITIES BY YEAR**	
Competitive products or processes: 4 products Similar prior in-house technologies: 2 products / processes Suppliers: 1 products Queries to experts: 1 responses	2023	
	1-1	1-2
	Torsion coupler design	Cooling system design
OBJECTIVES	**RESULTS**	
Power: 500 hp		500
Emission requirement: 2 tier		2
Power bulge: 8 %		8
Torsional coupler spike load capacity: x		
Price: $		
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - Technological uncertainty		
cooler face and shapes		Y
Cooling system design - dust & low airflow		Y
torsional coupler - whipping,slip joint, materials	Y	

turbulent airflow vs. pressure effects		Y
	METHODS	
Analysis	16	
Trials	12	
Prototypes	4	
Lines of code		
	COSTS	
Hours	1400.00	1600.00
Materials $	350000.00	500000.00
Subcontractor $		30000.00

2302 - Canafric - food development WIN					
BENCHMARKS	**ACTIVITIES BY YEAR**				
(none)	2023				
	1-1	1-2	1-3	1-4	1-5
	2013 - 2/5 projects denied	2014 - 3/3 projects denied	2015 - 3/7 projects denied	2016 - 3/6 projects denied	Judges ruling and rationale
OBJECTIVES	**RESULTS**				
Shelf life: 10 days	6				
reduce salt: %					
increase protein: %					
maintain taste: %					
freeze / thaw credibility: %					
Cooking time: 80 %		85			
Use of chemical preservatives: 0 %	20				
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**				
1 - Technological uncertainty					
cooking techniques to reduce time		Y			
effects of no anitbiotics on meats		Y			
methods to reduce fat &	Y				

salt					
transferability of methods	Y				
	METHODS				
Analysis					
Trials					
Prototypes					
Lines of code					
	COSTS				
Hours	250.00				
Materials $					
Subcontractor $					

2303 - ACBK Thermal Storage LOSS	
BENCHMARKS	**ACTIVITIES BY YEAR**
Patent searches: 1 patents	2023
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
Efficiency : 90 %	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
basin orientations	
tank size	
water temperatures	
	METHODS
Analysis	
Trials	1
Prototypes	1
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2304 - Mold Leaders Mold designs LOSS	
BENCHMARKS	**ACTIVITIES BY YEAR**
Internet searches: 1 Articles	2023
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
units before misalignment: 10000 cycles	
Hardness: 55 hrc	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	8
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2305 - Daves Diesel - injector design LOSS	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2023
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
remanufacture injectors: 3 number	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
shim thickness	
spring pressure	

	METHODS
Analysis	
Trials	22
Prototypes	3
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2306 - JEC Distributors - welding LOSS	
BENCHMARKS	**ACTIVITIES BY YEAR**
Suppliers: 1 products	2023
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
Sensors (per gun vs per cell): 12 number	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
communication protocols	
electrical noise mitigation	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2400 - New AI examples from USPTO	
BENCHMARKS	**ACTIVITIES BY**

	YEAR
(none)	2024
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	

2401 - AI Anomaly detection method			
BENCHMARKS	**ACTIVITIES BY YEAR**		
(none)	2024		
	1-1	2-1	2-2
	Circuit design Eligible for patent	General anomaly detection - Ineligible	Packet method for security - Eligible
OBJECTIVES	**RESULTS**		
New ASIC chip design: 20 synapses/micron	17		
ANN Methodology: x			
Malicious attack detection: 99.9 %			99.5
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**		
1 - Circuit design HARDWARE			
connection methods	Y		
layouts	Y		
materials	Y		

2 - ANN design SOFTWARE / AI			
boundary definition - ordinary vs anomalous			Y
detection techniques			Y
variation sensitivity			Y
	METHODS		
Analysis			
Trials			
Prototypes			
Lines of code			
	COSTS		
Hours			
Materials $			
Subcontractor $			

2402 - AI Fibrosis Treatment		
BENCHMARKS	**ACTIVITIES BY YEAR**	
(none)	2024	
	1-1	1-2
	Screening method AI based - Ineligible	Custom eyedrops - Eligible despite AI result
OBJECTIVES	**RESULTS**	
System to identify risk : 99.5 %	97	
develop anti fibrotic eye drop: 1 0= no / 1 = yes		1
Reduce Post Inflammation: 90 %		93
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - Technological uncertainty		
drop formulation		Y
modelling SNPs - AI		
treatments - drops, microstints, surgery		Y
	METHODS	
Analysis		

Trials		
Prototypes		
Lines of code		
	COSTS	
Hours		
Materials $		
Subcontractor $		

2410 - Transaxle design using AI					
BENCHMARKS	**ACTIVITIES BY YEAR**				
	2024				
	1-1	1-2	1-3	1-4	1-5
(none)	AI generated result - Ineligible	Transaxle to practice - Ineligible	Redesign on horizontal plane - Eligible	AI input on fabrication - Eligible	AI system designer - Ineligible inventor
OBJECTIVES	**RESULTS**				
(none)					
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**				
1 - Technological uncertainty					
	METHODS				
Analysis					
Trials					
Prototypes					
Lines of code					
	COSTS				
Hours					
Materials $					
Subcontractor $					

2411 - Therapeutic cancer compound using AI		
BENCHMARKS	**ACTIVITIES BY YEAR**	
	2024	
(none)	1-1	1-2

	AI provided feedback - Eligible	AI provided solution - Ineligible
OBJECTIVES	**RESULTS**	
(none)		
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**	
1 - Technological uncertainty		
	METHODS	
Analysis		
Trials		
Prototypes		
Lines of code		
	COSTS	
Hours		
Materials $		
Subcontractor $		

2501 - Dazzm - Cloud-Based Metadata-Driven Solution WIN	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2025
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	

Materials $	
Subcontractor $	

2502 - Shelf-Stable Cold-Pressed Juice ('Chrisoda')	
BENCHMARKS	**ACTIVITIES BY YEAR**
(none)	2025
	1-1
	Activity 1
OBJECTIVES	**RESULTS**
(none)	
UNCERTAINTIES & KEY VARIABLES	**CONCLUSIONS**
1 - Technological uncertainty	
	METHODS
Analysis	
Trials	
Prototypes	
Lines of code	
	COSTS
Hours	
Materials $	
Subcontractor $	