



Innovation Relief Specialists

Industry Guidance Document

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Aerospace

System

1. Does your business get involved in developing prototypes or full size testing models of craft, systems or components?
2. Does your business develop man-machine interfaces, designed to minimise human error?

Process

3. Does your business complete load testing of components, wind tunnel testing, flight tests that form part of a larger R&D project and directly contribute to resolving technological uncertainty?
4. Does your business develop new manufacturing processes and new methods of analysis?
5. Does your business complete projects involving changes of existing aircraft models which involve design modifications?

Product

6. Does your business complete design work or testing, as the project evolves through design, engineering, model build and test, prototype build and test, flight build and test and operating data analysis?
7. Does your business manufacture products?

Material

8. Does your business work on improve weight reduction from existing materials?
9. Does your business develop new alloys or hybrid materials?
10. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?

Device

11. Does your business create new devices that improve the company's knowledge or capability in your industry?
12. Does your company improve existing devices through modification or program recoding?
13. Has your business sought to incorporate tablet/mobile technology in to the day to day operation? (Such devices will have needed to be either coded or modified from their off the shelf state to suit the needs of your business)

Architecture, Construction & Civil Engineering

System

1. Has your business coded specific software to suit the needs of your business?
2. Does your business use software, which may require reprogramming in order to overcome complex mathematical algorithms?
3. Does your business utilise software that takes in to consideration reflection of light, structural integrity or fluctuating pricing models?

Process

4. Does your business spend time creating algorithms, implementing advanced geometry to problem solve structural, light or material issues?
5. Does your business identify innovative uses of green or sustainable methods and technology?
6. Does your business make improvements on existing construction methods or development of new ideas to solve ongoing issues related to the site environment or project specifications?
7. Does your business improve coating methods of products?
8. Does your business develop new modular off site fabrication methods?

Product

9. Does your business get in involved in planning or building Proto-type Building designs?
10. Does your business manufacture products?

Material

11. Does your business find uses for new or unique materials, e.g. recycled products?
12. Does your business develop new packaging for exportation of materials?
13. Does your business get involved in the removal of contamination from sites, including land remediation activity?
14. Does your business make advancements in structural techniques that aid construction relating to unusual ground conditions?
15. Does your business develop new combustive or fire retardant materials?
16. Does your business develop any materials that are greener or cheaper to produce than existing alternatives?

Device

18. Does your business develop or modify devices used to overcome technical issues?
19. Has your business developed devices which have given you an advance in an industry?
20. Does your business create bespoke devices, machinery or tools to improve process efficiencies?

Automotive / Motor Vehicle Engineering

System

1. Does your business operate a conveyor belt production line within its process, if so is a barcoding system utilised in the process?
2. Does your business utilise robotics within certain parts of the business operation?

Process

3. Does your business implement automation systems in the manufacturing processes
4. Has your business improved the process of waste and recycling through new processes and methods?
5. Has your business developed software to improve processes or provide automated solutions?
6. Has your business planned, designed or developed robotic technology for internal business processes?
7. Does your business develop new manufacturing techniques to construct complex components?
8. Does your business develop specific tooling to complete new processes?

Product

9. Does your business make any advances with the technology of electric vehicles e.g. Power, delivery, weight, battery and cooling?
10. Does your business make improvements to vehicle performance, e.g. aerodynamics, fuel efficiency?
11. Does your business manufacture products?

Material

12. Does your business complete investigative work and identify causes of manufacturing defects?
13. Does your business have to overcome technical issues surrounding compatibility between components or materials?
14. Does your business redesign tools due to unexpected breakages?

Device

15. Do device trials take place in your business in order to improve process efficiencies, throughput or reduce waste/costs?
16. Has your business developed tablet/mobile technology to improve the way your business operates?

Biotechnology, Medical and Pharmaceutical

System

1. When did your business last update your control systems?
2. Does your business systems require calibration before use?

Process

3. Does your business develop new and improved production processes resulting in higher product yield?
4. Does your business design and develop new diagnostic testing methods?
5. What advances in technology has your business brought to its industry?
6. What advances in knowledge and capability has your business brought to its industry?
7. Does your business utilise lean manufacturing involving six sigma techniques, tiger teams, Kaizen events, etc?
8. Does your business develop new testing methods?
9. Does your business complete clinical trials on new drug formulations / methods?

Product

10. Does your business develop generic drugs replacements of off patent applications?
11. Does your business transfer new technologies from parent organisations?
12. Does your business manufacture products?

Material

13. Does your business develop new consumer drug formulations and coating techniques?
14. Does your business get involved in developing greater understanding in organic matter?

Device

15. Does your business design and develop new production processes for existing medical devices products?
16. Has your business developed tablet/mobile technology to improve the way your business operates?

Chemical Engineering

System

1. What automated/control systems do you utilise within your business?
2. When was your most recent system installed?
3. Has your business made any modification to software to improve process efficiency?
4. Does your business design and complete experimental activity?
5. What advances in technology has your business brought to its industry?
6. What advances in knowledge and capability has your business brought to its industry?
7. Has your business modified plant and machinery which produced an outcome that was not expected?
8. Does your business operate any laboratory equipment in your business?
9. Does your business analyse laboratory data or physical parameters?
10. Does your business had to modify plant and machinery in order for it to fit the needs of the business?

Process

11. What parts of your business do you subcontract out and why?
12. When was the last time you had to completed process design within your business?
13. Does your business process hazardous waste?
14. Has your business had to change the processing of waste before it leaves the business premises?
15. Does your business have to deal with processes that prepare, purifying and/or separate materials to create products?
16. Does your business plan, design, test or modify products, processes, devices, systems and materials?

Product

17. Does your business manufacture products?
18. Does your business complete continuous improvement activity on its products?

Material

19. Do chemical reactions take place in your business, if so please specify?
20. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?

Device

21. Does your business utilise mobile applications within its day to day operation?

Electrical, Electronic & Robotic Engineering

System

1. Does your business plan, design new chip-set/electronic circuit layouts?
2. Does your business had to overcome thermal/cooling management issues to improve reliability or efficiency?
3. Does your business develop new methods of communication between devices, systems and their operators?

Process

4. Does your business utilise electronic lab facilities either in-house or on a subcontracted basis?
5. Does your business get involved in developing algorithms, applications or principles for the business system needs?
6. Does your business attempt new construction methods of connecting components?
7. What coding development has taken place to software for new processes?
8. Does your business operate a conveyor belt production line in within its process, if so is a barcoding system utilised in this process?
9. Does your business spend time developing enhanced artificial intelligence to improve movement and anticipation required for robotic processes?
10. Does your business plan, design or develop advances in robotic technology?

Product

11. Does your business design and/or develop prototypes of a robotic nature?
12. Does your business manufacture products?

Material

13. What component issues have occurred in your business?
14. Does your business work on improve weight reduction from existing materials?
15. Does your business develop new alloys or hybrid materials
16. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?

Device

17. Has your business developed tablet/mobile technology to improve the way your business operates?

Food (including Restaurants and Breweries)

System

1. Does your business spend money on developing pilot plant and machinery for brewing of alcohol or manufacture for food /drink products?
2. When did you last update your business systems?

Process

3. Does your business developed cost effective labelling using paper labelling machines, overcoming practical and aesthetic issues and improving an existing process and waste output?
4. Does your business develop new or improve water recycling or waste management processes?
5. Does your business develop new or improve ingredient mixing methodologies?
6. Does your business develop new recipes, which is built in a fundamentally different manner?
7. Does your business complete tests relating to microbiology, shelf life, allergen and pesticide residue testing, isotopic analysis, molecular biology and a range of classic physical, chemical and biological methods?
8. Does your business attempt to recreate the taste, texture and mouthfeel of established foods without using allergens such as gluten, egg and milk, or to replicate the effects of small-scale, artisan processes on an industrial scale?
9. Does your business integrate new technology in to the manufacturing process to improve efficiency or visibility of the day to day operation?
10. Do any processes or parts of your business have to be sub contracted out, due to being technical in nature?

Product

11. Does your business produce alternative food source such as, pet food. If so has there been any development work around improving the animal's immune system, digestion and mobility by incorporating a number of previously untried ingredients and technologies? For example a food product that improves joint protection and pro-biotic qualities
12. Does your business work on improving the health and nutritional profile of food and drink products?
13. Does your business manufacture products?

Material

14. Does your business develop new recipe formulations, where research has taken place on new combinations of ingredients to get different flavours? (Deeper, lighter, sweet, dry, bitter etc.)
15. Does your business spend time experimenting with content balance issues. Such as; reducing or increasing ingredient content (example; sugar or alcohol) without impairing flavour?
16. Does your business spend time on increasing shelf life through improved preservative chemicals/techniques or better packaging?
17. Does your business improve packaging of products to use thinner material, whilst still maintaining strength

Device

18. Has your business developed tablet/mobile technology to improve the way your business operates?

Gaming

System

1. Does your business develop leading edge/brand new mechanics/special effects through the resolution of complex algorithms?
2. Does your business develop modules, or in-house systems for online casinos?
3. Does your business develop complex integrated interactive games for games consoles using complex communications i.e. multiple operating systems?
4. Does your business resolve unforeseen compatibility issues between hardware and the combination of operating systems, where the resolution is not readily deducible?
5. Does your business develop and implement systems, which involves the processing or analysis of geographic data?
6. Does your business work on new techniques which are rarely readily deducible in order to improve the efficiency of developed systems?

Process

7. Developing new technologies which will keep the company in sync with the next generation of platform and at the forefront of your industry advances?
8. Does your business have to overcome uncertainties surrounding the compression of high quality visual and audio information onto smaller media (more cost effective) without compromising accuracy, ensuring the output is of the highest standard, which poses a major technological challenge?
9. Does your business have to work on the process of updating of software, so that real time data can be used timely and accurately as part of the game, over the web with multi-users?
10. Does your business develop new software libraries and algorithms, incorporating new functionality, allowing the product to advance to a commercial entity only once the technology prototype was proved?
11. Does your business develop new and efficient algorithms through the development of bespoke and unique code to achieve the desired result?
12. Does your business look to make processes faster, heightened visuals, reduce required data size, faster moving frame rates, better sound etc are all technological issues that have to be faced when developing new software process?

Product

13. Does your business build unique suites of development tools providing developers and producers with an efficient and productive workflow, which is easily expandable across different industries?
14. Does your business look to appreciably improve on earlier products, specifically regarding the functionality, depth of content and content matter, price and user interfaces?

15. Does your business develop a multi-platform interactive e-learning tool and subsequent new products to facilitate the learning process?

Material

16. Does your business work on developing cutting edge designs of computer chip set architecture?
17. Does your business look at the best coolant materials to maintain the best consistent operating temperature?
18. Does your business work on improving the performance of new chipsets based on its resilience to how the materials react to high/cold temperatures?

Device

19. Does your business overcome the complexities of combining new platforms with mobile technology?
20. Does your business develop games for a Kindle, iPads, Android, Linux or any other mobile operating system?
21. Does your business develop application for personal fitness, business productivity, tracking, processing of live or complex data?
22. Does your business develop applications for online casinos, where complex algorithms have to be developed to process payments, winnings or identifying fraudulent activity?

IT & Telecommunications

System

1. Does your business develop software for companies who have less than 500 staff?
2. Does your business develop new operating systems or coding languages?
3. Does your business create new search engines using materially new search methods?
4. Does your staff have to resolve conflicts within hardware or software, where the existence of a problem area and known solution have not been documented?
5. Has your business had to integrate a legacy system with a new system? e.g. following a corporate merger or acquisition.
6. Does your business develop intranet portals within websites where a backend interface processes data?
7. Does your business develop software to run on new types of computer hardware, particularly where there is a conflict between hardware and software?

Process

8. Does your business spend time creating new or more efficient algorithms whose improvements depend on previously untried techniques?
9. Do your staff create new mathematical equations in order to resolving technical uncertainty of coding processes, system operation speed or variable pricing models?
10. Does your business create a new encryption or security techniques that do not follow established methodologies?
11. Does your business design, construct and test systems, devices or processes? e.g. new hardware or software components, digital Interface and control systems.
12. Has your business made any advances in network management and operational tools, development of wired or wireless technologies, designing mobile and interactive services, evolution of new generation network switching and control systems?
13. Does your business develop new methods of capturing, transmitting, storing, retrieving, manipulating or displaying data
14. Does your business develop new data management techniques, better retrieval processes and query languages or data structures?
15. Does your business develop new technologies for image processing, data and transactional security, and character and speech recognition?
16. Does your business complete studies in artificial intelligence, including robotics, machine vision, inference and automated language translation?

Product

17. Does your business manufacture products?
18. Does your business have to configure products to suit the need of your clients?

Material

19. Does your business work on improve weight reduction from existing materials?
20. Does your business develop new alloys or hybrid materials
21. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?
22. Does your business search new materials that would give an industry advance in speed, efficiency or cost over competitors?

Device

23. Does your business utilise a mobile application within its operation?
24. Has your business developed a mobile application that requires specific coding in order for it to suit the needs of the business?

Manufacturing

System

1. Is your business involved in developing prototypes?
2. Has your business developed specific software to suit the needs of your business?
3. Does your business use software, that may require reprogramming in order to overcome complex mathematical algorithms?
4. Has your business modified plant and machinery, thereby producing an outcome that was not expected?
5. Has your business had to overcome thermal/cooling management issues to improve reliability or efficiency?
6. Does your business develop new methods of communication between devices, systems and their operators?
7. When did you last update your business systems?
8. Has your business created its own Inventory/Stock System?
9. Has your business developed a CRM system?
10. Does your business operate a barcode / logistic system?

Process

11. Does your business develop new manufacturing processes?
12. Does your business implement automated systems in the manufacturing processes?
13. Does your business develop new manufacturing techniques to construct complex components?
14. Does your business utilise lean manufacturing involving six sigma techniques, tiger teams, Kaizen events, etc?
15. Does your business develop new testing methods?
16. What parts of your business do you subcontract out and why?
17. Does your business process hazardous waste?
18. Does your business develop new methods of capturing, transmitting, storing, retrieving, manipulating or displaying data?
19. Does your business have to resolve technical issues, such as component tolerances or stress testing?

Product

20. Does your business manufacture products?
21. Does your business design and/or develop prototypes of a robotic nature?
22. Does your business look at developing products that have unique properties? (For example; a water-based ink that becomes water proof once it has cured)

Material

23. Does your business work on improve weight reduction of existing materials?

24. Does your business develop new alloys or hybrid materials?
25. Does your business look to reduce the wastage of expensive materials, using advanced recycling techniques?
26. Does your business redesign tools due to unexpected breakages?

Device

27. Does your business create new devices that improve companies' knowledge or capability in your industry?
28. Does your company improve existing devices through modification or program recoding?
29. Has your business sought to incorporate tablet/mobile technology into day-to-day operations? (Such devices will have needed to be either coded or modified from their off the shelf state to suit the needs of your business)

Mechanical Engineering

System

1. When integrating systems or new pilot plant and machinery through probabilistic design, have unexpected problems still occurred. If so, please give examples?
2. Does your business plan, design, test pilot plant and machinery?
3. What types of physical data analysis takes place in the business?

Process

4. How often does your business get involved in resolving complex mathematical equations in order to resolve technical uncertainty?
5. Does your business have to resolve technical issues, such as component tolerances or stress testing?
6. Does your business design, develop and manufacture new jigs and tooling for new products, processes, systems, devices?
7. Does your business planned to use new robotic/automated technology within its processes?
8. What problems have occurred to new systems which have been introduced in to the business process?
9. When was the last time the business had to resolve technical issues caused to heat and temperature and their relation to energy and work?

Product

10. Does your business manufacture products?
11. Does your business manufacture products for other companies?

Material

12. Does your business work with new materials or new techniques for combining materials together?
13. Does your business work on improve weight reduction from existing materials?
14. Does your business develop new alloys or hybrid materials
15. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?

Device

16. Has your business developed tablet/mobile technology to improve the way your business operates?

Publishing Printing, Reproduction

System

1. Has your business made investment in bespoke software / developed in-house or subcontracted out?
2. Does your business currently have the capability of 3D printing techniques? If not, does your business plan to capitalise in to this area in the future?
3. Does your business invest in new machinery, technology or software to adapt processes?
4. Has any of your business machinery been modified in order for it to suit the business needs?

Process

5. Does your business complete trialling or testing of a new printing method or technique to meet a client's needs, based on a specific project specification?
6. Does your business look in to improving production processes through additional technology? (for example; a packaging processes that incorporates RFID [radio frequency identification] technology)
7. Does your business developed new technological solutions to reduce hazardous substances, paper wastage?

Product

8. Does your business spend time and resources developing new products in-house, rather than previously importing the same product in?
9. Does your business look at developing products that have unique properties? (For example; a water-based ink that becomes water proof once it has cured)

Material

10. Does your business have to trial or test the quality of print, adhesive properties of ink and their chemical reactions on new/different materials?
11. Does your business have specific projects where the objective is to improve the colouration or adhesion of ink on different materials?
12. Does your business have to spend time testing alternative solutions/mixtures; where there has been a removal of a colour or chemical due to it being a toxic chemicals; or volatile organic compounds?
13. Does your business develop enhancements to core technologies? (e.g. inkjet, offset, dry offset, rotogravure, flexographic or packaging technologies)

Device

14. Has your business developed tablet/mobile technology to improve the way your business operates?

Space

System

1. Does your business design, development or manufacture power systems for spacecraft systems?
2. Has the business made advances in software, material or technology in nano, micro or small satellite systems?

Process

3. Does your business work on devices, processes, products, materials or devices designed to work on altitude control and determination system missions?

Product

4. Does your business manufacture products?

Material

5. Does your business work on projects focused on materials with improved weight reduction properties, whilst not compromising structural integrity of the spacecraft?
6. Does your business work on improve weight reduction from existing materials?
7. Does your business develop new alloys or hybrid materials
8. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?

Device

9. Has your business created specific software that completes a new function, improved navigation, more accurate telemetry or more efficient rocket propulsion?
10. Has your business developed tablet/mobile technology to improve the way your business operates?
11. Does your business manufacture devices for a specific function towards a mission objective?

Transport

System

1. Does your business develop new refrigeration units for the transportation of fresh goods?
2. Does your business develop bespoke machinery to improve its business processes?
3. When did your business systems last get modernised and did the update have to be subcontracted out?

Process

4. Does your business make process improvements through the introduction of technology?
5. Does your business have to resolve technical issues, such as component tolerances or stress testing?

Product

6. Does your business manufacture products?

Material

7. Does your business work on improve weight reduction from existing materials?
8. Does your business develop new alloys or hybrid materials
9. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?

Device

10. Does your business complete picking / inventory of goods for delivery. If so, has there been any integration with tablet technology to accomplish this? (Retail or Wholesale use).
11. Does your business use mobile applications within its process which has been specifically developed for the business needs, rather than being available straight off the shelf with no development required?
12. Has your business developed tablet/mobile technology to improve the way your business operates?
13. Does your business developing unique technology that assists in the tracking and timing of goods from one point to the next?

Utilities

System

1. Does your business complete testing around leakage and system integrity?
2. Does your business develop a new control system to monitor and price renewable energy production?
3. Does your business develop any new CRM / control / automated systems to improve process efficiency?
4. Does your business complete testing around pressure or temperature of systems?

Process

5. Does your business develop a new process of recycling material?
6. Has your business made advancements in process innovation within the industry?
7. Does your business make advances in the environmental efficiencies of its process and waste output?
8. Does your business address reliability issues with tooling, devices or plant and machinery where modifications were required to eliminate/reduce wear and tear?
9. What types of testing take place to identify and treat corrosion?
10. Does your business develop new solutions for confronting extreme operating conditions, particularly corrosion and the risk of collapse?

Product

11. Does your business plan, design or develop new modular pipe joints? (for example; a compact solution for very high torque applications in extreme conditions)

Material

12. Does your business develop new materials (coating) or better ways of connecting materials? (for example; a threaded connections to replace the greases customarily used whilst offering effective protection against seizing and corrosion).
13. Does your business develop any new material, which has better heat properties? (for example; a chromium steel alloy, designed for use at high temperatures like the temperatures you could find in a ultra-supercritical power plant. This steel's outstanding resistance to steam oxidation is a massive advance)
14. Does the business create material that is far cheaper to produce, than standard alternatives?
15. Does your business work on improve weight reduction from existing materials?
16. Does your business look to improve the wastage of expensive materials, through advanced recycling techniques?

Device

17. Has your business developed tablet/mobile technology to improve the way your business operates?