Proserv is the fresh alternative in global energy services.

We are a technology-driven company providing products, services and bespoke solutions to clients across the drilling, production and decommissioning market sectors.

Combining technical ingenuity with design, engineering, manufacturing and field services expertise, we support clients throughout the life-cycle of their assets with a focus on maximising operational performance and efficiency.
Who are Proserv

In our ongoing pursuit for excellence, we are not afraid to challenge the conventional.

*Ingenious Simplicity* is at our core and we are committed to helping clients produce more for less. Partnering with progressive, like-minded companies, we cut out all the complexity to provide appropriate, yet ingenious technology solutions delivered simply.

Proserv has been in this business for over 40 years and we’re continually evolving.

1400 Employees 6 Regions 22 Sites 12 Countries
Our Global Expertise

Over 300 wells cut and recovered

Over 3,000 specialised cutting projects completed

Over 100 proprietary tools for solving decommissioning challenges

Proserv’s decommissioning cutting solution can reduce overall project time by 15-20%

Over 650 platform and subsea structures removed

Over 98% of our projects completed on budget and delivered on time, often exceeding client expectations
Our Decommissioning Heritage

Whilst decommissioning is a new market for many, we have been in this business for over 30 years.

Five companies acquired by Proserv Group to form Proserv Offshore, a global player in decommissioning and abandonment.

Proserv Offshore was re-branded along with other companies with complimentary strengths to form the new-look Proserv in 2011.
Our Services

Topside and jackets
• Deck separation
• Module separation
• Flare stack removal
• Structural removal
• Jacket/pile removal
• Production pipework removal

Subsea infrastructure
• Pre-decommissioning surveys and sampling severance removal of:
  - Pipelines
  - Flowlines
  - Bundles
  - Umbilicals
  - Risers
  - Mooring chains
  - Manifolds
  - Wellhead protection structures
  - Pipeline end terminals

Platform and subsea wells
• Intervention services
• Subsea well severance and recovery
• Conductor recovery, sectioning and pinning
• Wellhead retrieval

Renewables
• Met mast removal
• Full structure decommissioning
Our Field Services
Wells
15 Subsea well severance & recovery
16 Conductor recovery, sectioning/pinning
17 Wellhead retrieval
18 JetCut water abrasive technology
19 Surface well severance & recovery

Renewables
20 Met mast removal
21 Wind farm full structure decommissioning

Topside
1 Deck separation
2 Module separation
3 Flare stack removal
4 Jacket removal - below mudline abrasive cutting
5 Structural removal
6 Riser & conductor removal
7 Process/production pipework removal

Subsea
8 Flowlines, subsea risers & umbilical severance & removal
9 Mid water arch removal
10 Manifold removal
11 Mooring chain/tether severance
12 Mooring pile severance & recovery (water abrasive below mud line)
13 Wellhead protection structure removal
14 Pipeline end termination removals (PLET)
If I had one hour to save the world, I’d spend **55** minutes defining the problem and only **five** minutes finding the solution.

Albert Einstein

Decommissioning requires a collaborative approach and we invest the time to understand our clients’ business, drivers and challenges to help develop the optimum project solution.

**Our Support Services:**

- Operational Planning & Design
- Engineering & Manufacturing
- Trials & Testing
- Project Management & Execution
- Offshore Management
Thinking Differently

Many of our oil and gas assets may be old but that doesn’t mean we have to stick to the same old mind set.

Early Engagement

Proserv encourages clients to engage at the life extension stage as acting only when an asset is on the verge of ceasing production is too late. By partnering with us earlier, we can help eliminate risk and cost inefficiencies from the start.

Technology Results

Due to the immaturity of the market, innovation and technology play an important role but only if it reduces risk and cost. Whilst Proserv has a proven track record for innovation, we use field-proven and standardised technologies to deliver predictable, cost-effective results.

Challenging the Norm

Decommissioning in the current economic climate requires a mind-set that is open to change. What worked before isn’t always the optimum solution for today. Is there an alternative solution that would be quicker, more reliable and cost-effective?

Specialist Expertise

The decommissioning process requires a unique set of skills and expertise in order to drive operational efficiency. You wouldn’t employ a builder to knock down a house; you go to a specialist. Why should the decommissioning stage be any different?
Market Challenges

We understand that there is no production revenue with decommissioning and operators are faced with many challenges:

• With increasing numbers of aging assets (30+ years), more platforms are due to be retired
• The lower oil price is putting financial pressure on operators to cease production earlier
• Operators need to meet regulatory guidelines and manage risk
• Many global offshore assets are complex, with limited information, often based in remote locations
• Decommissioning is still a relatively immature activity and controlling projects cost is a challenge

A clear late-life strategy allows operators to remain robust and profitable in a harsh margin environment.
The Proserv Solution

Proserv are the decommissioning experts.

Our aim is to provide clients with the most reliable, efficient and predictable end of life solution, delivered at the lowest cost and with no compromise on best-in-class HSE performance.

We believe in delivering sustainable value to clients. As a responsive and flexible services organisation, we aim to align our commercial models with those of our clients where we are rewarded for our efficiencies and our outstanding project results rather than just time spent in operation.
The Proserv Approach

Understand the client's challenge

Design a solution

Identify tools required

Optimise the total cost of the solution

Build, refurbish, qualify, test and install

Engage as early as possible

In collaboration with client when possible

In collaboration with others if a benefit

Draw on the Proserv toolbox

Engage with all parties
The Proserv Toolbox

- Operational Expertise
- Service Tools & Equipment
- Proserv Products designed and manufactured in-house
- R&D – Bespoke Engineering
- Third Party Client Products, Expertise, Inventory & Resource
- Technical Competence & Expertise
Why Proserv?

Expertise and Services

- Extensive heritage - we have been in this business for over 40 years
- The experience and lessons learned over these years allow us to pass on our knowledge and competence to our clients future projects
- We offer a bundled services approach so using multiple contractors is not required

Technology

- Vast technology portfolio
- Proserv uses standardised, field-proven technologies, enhancing our tools if necessary to ensure it is a truly bespoke, fit for purpose solution
- Our multi string cutting (MSC) and internal pile cutting (IPC) technology solutions are field proven to 3,000 msw and 500 msw respectively

Safety and Environment

- No use of explosives – environment and marine life friendly
- Our technology is designed to limit diver intervention
Responsiveness

- We are a services company first and foremost
- Due to our organisational structure we are nimble and quick to react
- Our knowledge and expertise is fully integrated so clients deal with a single point of contact

Flexibility and Partnerships

- We are free from our own self interests
- Will join forces with others as required to deliver the optimum solution

Efficiencies

- Proserv technology solutions save both time and money
- Our water abrasive decommissioning wellhead severance technology offers superior cutting time of typically four to six hours for a four string, uncemented well
Our Proprietary Toolkit
Our Expertise: Europe

Proserv has been involved in many of the high profile decommissioning projects globally. Below is a selection of the projects since 2010.

**Topside and Jackets**

Module Separation and the Cutting of Legs and Jackets

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<tr>
<th>Client</th>
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### Subsea Infrastructure
Cutting and Removal of Subsea Structures and Pipelines

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### Offshore Wind
Met Mast Decommissioning

### Well Severance
Cutting and Recovery of Subsea Wellheads

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### Sampling and Intervention
Sampling of Gravity Base Structures

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Our Expertise: **Gulf of Mexico**

Proserv has been involved in many of the high profile decommissioning projects globally. Below is a selection of the projects since *2010*.

**Topside and Jackets**
Module Separation and the Cutting of Legs and Jackets

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# Well Severance
## Cutting and Recovery of Wellheads

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Our Expertise: Middle East and Asia Pacific

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Topside and Jackets
Module Separation and the Cutting of Legs and Jackets
**Subsea Infrastructure**  
Cutting and Removal of Subsea Structures and Pipelines

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**Well Severance**  
Cutting and Recovery of Wellheads

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Case Study
Topside Decommissioning

Client: Leading Engineering Contractor
Location: Japan
Equipment: Existing and bespoke cutting technology solution

Project Background
Proserv was awarded a subsea cutting contract for the decommissioning of a platform off the north-east coast of Japan. Situated in 154 metres (505 feet) of water, the eight-legged, 20,735 metric ton (22,856 ton) platform was the largest in the region scheduled for decommissioning.

Solution
Proserv supplied all cutting equipment and services required to complete the project. Using existing technology solutions Proserv developed a new 24 to 42 inch saddle pipe cutter (SPC), launch runner cutter (LRC) tool and a 62 to 80 inch diamond wire cutting (DWC) tool in order to meet the specific project requirements.

Trials of the proposed solution took place at Proserv’s regional facilities located in Australia, Malaysia, UK and Norway. Site integration tests also took place on board the client’s heavy lift vessel.

The extensive trial process included a performance test of a diamond wire cut using the 62 to 80 inch tool. This was completed on a full scale mock-up of the platform leg, complete with a launch runner and comprehensive loads of 560 metric tons. This simulated the weight loads the leg would be subjected to offshore during the cutting phase.
Conclusion
Following completion of the trials, the equipment was prepared for each regional base and mobilised to the platform for the commencement of cutting operations, deployed using ROVs. A total of 34 structural cuts were completed successfully for the client within the project timeframe.

Benefits
• Bespoke cutting solution designed to meet specific project requirements
• A truly collaborative team project to ensure the project was delivered on time and under budget
Case Study
Topside Decommissioning

**Client:** Global Service Provider  
**Location:** Norway (Frigg Field)  
**Equipment:** Existing and bespoke cutting technology solution

**Project Background**
Proserv was contracted by a global service provider to provide a cutting and recovery solution for 28 pile guides on the jacket structure of the Frigg DP2 platform located in the Norwegian sector. The client required a solution allowing them to attach four buoyancy tanks to remove the jacket structure in one piece while onshore.

**Solution**
Proserv designed and fabricated a bespoke diamond wire ROV tool and associated buoyancy solution. Following the completion of the cutting process the buoyancy solution aided in the deployment of the lifting plug recovering the cut pile guide. All operations were designed for ROV operation only.

**Scope**
To successfully cut and remove 28 pile guides to the surface, the process included 280 separate diamond wire cut operations. Proserv designed a buoyancy tank and lifting plug for deployment below the pile guide where it was docked from below. ROVs continually monitored the progress and assisted with the docking procedure. Once secured, the lifting plug was hydraulically locked in place ensuring the ROV could attach the diamond wire cutting tool onto the mounting plate located on the lifting plug.

As a result, a 360 degree rotation around the pile guide was possible providing access to the support structures requiring severance.
Benefits

• Closed, open cooperation with the ROV operator to allow simulation of operations prior to the offshore phase
• Robust tooling for use in hazardous environments
• One of the safest cutting systems available and harmless to the marine environment
• Fully bespoke design to meet the cutting challenge
Case Study
Platform Well Severance

Client: Leading GoM Operator
Location: Gulf of Mexico
Equipment: Multi string cutting (MSC) tool

Project Background
Proserv was awarded an abrasive cutting contract for the removal of 12 multi string wells from a single platform in the Matagorda Island area of the Gulf of Mexico. The work was completed off of an offshore derrick barge using the multi string cutting (MSC) water abrasive cutting system to complete the project.

Solution
Proserv's MSC tool was used to sever 12 wells below the mud line of various construction types. The wells included casings of various sizes along with grouted and non grouted annuli. The basic make up of the wells were as follows:

- (7) 10 3/4" x 16" x 26" wells
- (5) 13 3/8" x 18" x 26" wells

The cutting operation was carried out in two phases. The first consisted of the well preparation where the well annuli were sealed and an interface flange installed. The second stage consisted of the cutting operations completing the work scope. During the removal operation the MSC tool was configured based on the well inner casing.
Conclusion
The MSC tool provided a safe and reliable method of severing the multi string production casing. The configurability of the tool allowed for quick transition from one well size to another. Proserv was able to successfully sever all wells without any complications.

Benefits
• Redundant equipment to assure no downtime
• Non-intrusive cutting system
• Modular tooling solution, to cut varying casing sizes
Case Study
Subsea Well Severance

Client: Leading North Sea Operator
Location: UKCS
Equipment: Multi string cutting (MSC) and diamond wire saw (DWS) subsea tools with topside equipment spread

Project Background
Proserv was selected to provide a solution for the removal of three wellheads in water depths of 147 msw in the UKCS. Upon successful award Proserv was contracted by the client to carry out all cutting and retrieval operations of three wellheads complete with casing stubs, which were to be cut ten feet below the mudline.

Solution
The severance of the three wells was carried out using two Proserv technologies. The first well was severed using the DWS cutting system due to well bore restrictions, preventing MSC deployment.

The second and third wells were severed using the water abrasive MSC technology. Both wells consisted of a four string construction with cemented annuli and outer conductor wall thickness of two inches (approximately 50 millimetres). All wells were severed successfully and wellheads complete with casing stubs retrieved safely.
Conclusion
Recognised as the optimum solution, Proserv provided a MSC and DWS well severance tooling solution for this project. The work was completed from a LWI vessel using a fully integrated team. Proserv also provided the topside, subsea water abrasive and DWS cutting equipment, operated by our fully trained and experienced personnel to complete the full work scope.

Benefits
• Field proven technology and experienced personnel
• Engineered solution and bespoke tooling developed to meet client’s needs
• Project successfully completed ahead of schedule
• Contingency offering to ensure completion in challenging environment
Case Study
Rig Based Well Abandonment

**Client:** Maersk  
**Location:** UKCS  
**Equipment:** Multi string cutting (MSC) tool

**Project Background**

The client embarked on a programme of work to decommission a field in the North Sea. Proserv was engaged to supply a solution for internal cutting and recovery of wells during March 2016. The semi-sub Sedco 704 was contracted by the client to complete the work and Proserv deployed its MSC equipment spread to complete the operation.

**Solution**

Proserv’s MSC tool uses abrasive water jetting technology and was selected as the solution to conduct internal well severance. This method was chosen over traditional methods as it offered significant time savings and the adaptability to sever strings made up of differing IDs, cemented or uncemented. Tooling to recover the severed wellheads was also mobilised allowing severance and recovery. Cutting time for a three string well ranged between four and six hours with the eight well campaign completed over the course of nine operational days.

**Conclusion**

This is the first rig-based well severance and recovery project completed by Proserv in the North Sea. The operation was completed ahead of schedule with well severance times exceeding client expectations. A strong collaborative effort between Proserv, the client and rig teams resulted in an efficient and successful campaign.
Benefits

- Reliable cut of cemented or non-cemented casing strings
- Contactless cutting technology reduces risk of stuck in hole
- Adaptable tooling that can deal with various casing IDs
- Reduced vibration in drill string
Case Study
Renewables Decommissioning

**Client:** E.ON Energy  
**Location:** North Sea, German Sector  
**Equipment:** Airlift tool, 15k JetCut system, internal pipe cutter (IPC)

**Project Background**

The client required a solution for the removal of a met mast within the Amrumbank West wind farm field located in the North Sea, German sector. In order to complete the work scope Proserv designed bespoke tooling solutions to overcome the engineering challenges offshore within a tight timeframe.

**Solution**

Proserv provided a decommissioning solution by using and implementing design modifications to a suite of existing tooling. These included extending water depth capabilities from ten to 13 metres to a 50 metre depth and amending a cutting tool so it could detect and cut around a steel channel obstacle within the pile. An aluminium external guide band was also designed in-house to fit one of the largest diameter monopiles to date in Proserv's history (4.3 metres). A series of trials were carried out in one of Proserv's test tanks within the timeframe prior to mobilisation.

**Scope**

The met mast decommissioning operations were carried out in two stages and included soil plug and cutting operations. The first stage consisted of internal airlifting within the met mast using Proserv's augmented soil plug tool airlift tool and a high flow / high lift submersible pump, ensuring the internals of the met mast remained flooded. The cutting operations in the second stage used a modified internal pipe cutter (IPC09) to perform a subsea internal severance cut completing the scope of work.
Conclusion

The required design modifications were executed within the short timeframe and the offshore work scope completed on schedule. The client received a fit for purpose solution necessary for the decommissioning works using a safe cutting system with no ROV or diver intervention.