

SUPPLIERS EVALUATION AND SELECTION FOR SPECIAL SOLUTIONS

WORK-STUDY THESIS

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MBA PURCHASING MANAGEMENT
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Management summary

This thesis focuses on the purchase of special solutions at Manitou's Beupréau site and explores the challenges and strategies involved in evaluating and selecting suppliers for these bespoke solutions. Manitou, a world leader in materials handling, seeks to differentiate and innovate by offering 5ptimize5t solutions to its industrial, commercial and military customers.

Specials solutions are essential to Manitou as they enable it to stand out from competitors, penetrate new markets such as the military, and generate recurring revenues with high margins. For example, Manitou has developed fire suppression systems and reversing cameras to improve safety.

The development of special solutions follows a detailed process: initial consultation, design and engineering, methods and planning, supplier selection, prototyping and testing, production and 5ptimize5tion, quality assurance, training and support, and finally ongoing collaboration and maintenance. This sector showed growth in volume and value, with international coverage extended to 79 countries. The military sector in particular has emerged as a key segment, driven by current geopolitical dynamics.

Purchasing special solutions components presents unique challenges due to the complexity and low volumes of orders. Manitou must adopt specific strategies to manage these purchases, focusing on collaboration and flexibility with suppliers. Supplier evaluation is based on multi-dimensional criteria including technical competence, financial strength and social and environmental responsibility.

It is recommended that Manitou develops a bespoke supplier selection strategy, integrating advanced technologies such as AI and blockchain to 5ptimize processes. Integrating corporate social responsibility practices into technological innovations and risk management is crucial to enhance sustainability and competitiveness.

Manitou's effectiveness in managing special solutions relies on rigorous evaluation and meticulous selection of suppliers, capable of supporting its ambitions for growth and innovation. By adopting a strategic approach, Manitou improves its competitiveness and contributes to a more responsible and efficient industrial sector.

Synthèse managériale

Ce mémoire porte sur les achats des affaires spéciales sur le site de Manitou à Beupréau et explore les défis et les stratégies impliqués dans l'évaluation et la sélection des fournisseurs pour ces solutions sur mesure. Manitou, leader mondial de la manutention, cherche à se différencier et à innover en offrant des solutions personnalisées à ses clients industriels, commerciaux et militaires.

Les solutions spéciales sont essentielles pour Manitou car elles lui permettent de se démarquer de ses concurrents, de pénétrer de nouveaux marchés tels que le marché militaire et de générer des revenus récurrents avec des marges élevées. Par exemple, Manitou a développé des systèmes d'extinction d'incendie et des caméras de recul pour améliorer la sécurité.

Le développement de solutions spéciales suit un processus détaillé : consultation initiale, conception et ingénierie, méthodes et planification, sélection des fournisseurs, prototypage et essais, production et personnalisation, assurance qualité, formation et assistance, et enfin collaboration et maintenance continues. Ce secteur a connu une croissance en volume et en valeur, avec une couverture internationale étendue à 79 pays. Le secteur militaire en particulier est devenu un segment clé, poussé par la dynamique géopolitique actuelle.

L'achat des composants affaires spéciales présente des défis uniques en raison de la complexité et des faibles volumes de commandes. Manitou doit adopter des stratégies spécifiques pour gérer ces achats, en mettant l'accent sur la collaboration et la flexibilité avec les fournisseurs. L'évaluation des fournisseurs repose sur des critères multidimensionnels, notamment la compétence technique, la solidité financière et la responsabilité sociale et environnementale.

Il est recommandé à Manitou de développer une stratégie de sélection des fournisseurs sur mesure, en intégrant des technologies avancées telles que l'IA et la blockchain pour optimiser les processus. L'intégration des pratiques de responsabilité sociale des entreprises dans les innovations technologiques et la gestion des risques est cruciale pour renforcer la durabilité et la compétitivité.

L'efficacité de Manitou dans la gestion des affaires spéciales repose sur une évaluation rigoureuse et une sélection méticuleuse des fournisseurs, capables de soutenir ses ambitions de croissance et d'innovation. En adoptant une approche stratégique, Manitou améliore sa compétitivité et contribue à un secteur industriel plus responsable et plus efficace.

Introduction

In September 2023, I had the opportunity to join the MBA course in purchasing management at the MBWAY school in Angers. This crucial step in my career path was completed by my integration into the Manitou group's purchasing team at the Beaupréau site.

After completing a University Diploma in Technology in Business and Bachelor's degree in supply chain management, both through in a work-study program in the agricultural and agri-food sector, my transition to Manitou's industrial sector as a work-study buyer marked a significant turning point.

This experience enabled me to discover and learn their working methods, benefiting from the group's maturity in managing needs and internal processes. As a result, I was able to master effective tools and working methods for organising my actions.

During this integration, I took over the management of special solutions purchases.

Following discussions with my manager and the various parties involved in the department, I was able to identify the main challenges and opportunities of my role. This in-depth understanding laid the foundations for the central issue of my study, which I will develop in the rest of this dissertation. It is structured around the following issue:

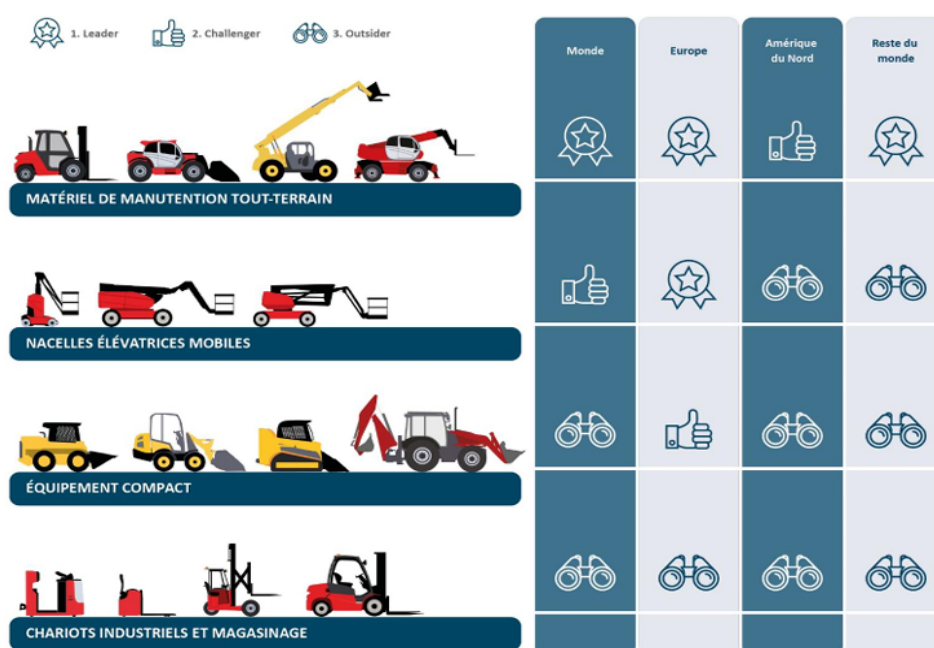
How can Manitou effectively evaluate and select suppliers for special solutions purchases?

History and growth of Manitou

The story of Manitou began in 1945, when André Braud founded a construction company in Ancenis, France. In 1958, Marcel Braud, André's son, invented the first rough-terrain forklift truck. This innovative product revolutionised the materials handling industry and enabled Manitou to expand rapidly.

Over the following years, Manitou continued to innovate and diversify. The company launched new products, including telescopic handlers, aerial work platforms and skid-steer loaders. Manitou also expanded its geographical presence, opening new subsidiaries around the world.

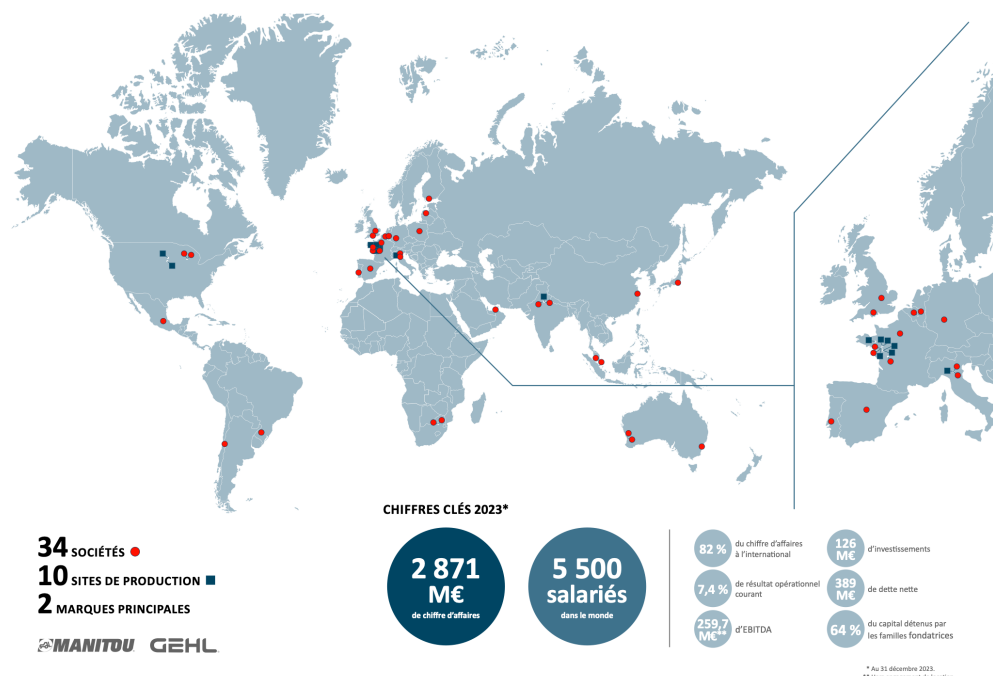
Appendix 1 : History of Manitou Group



Manitou Group's Market Position¹

Today, Manitou Group is a world leader in materials handling, personnel lifting and earthmoving equipment. The company was founded in 1957 and has grown steadily over the years. Today, Manitou is present in more than 100 countries, has just achieved a record turnover of €2.9 billion in 2023 and employs 5,000 talented people around the world.

¹ <https://www.manitou-group.com/fr/>



Manitou's geographical presence ²

Over the years, Manitou has not only broadened its skills but also diversified its brands, positioning itself strongly in France and internationally. The Group's organisational structure has evolved to better reflect its growth and expertise.

Manitou's four core businesses:

- **Designer** : With 6 R&D centers in France (Ancenis, Beaupréau, Candé and Laillé) and 4 international centers (USA, India, Italy).
- **Producer - Assembler**: Manitou Group manages an extensive production network, with 9 strategically located production units.
- **Distributor**: The Group's 33 companies in various parts of the world ensure efficient distribution and a local presence.
- **Providing service and value**: Manitou Group operates 8 logistics centers in France and abroad.

In addition to its innovation and growth strategy, Manitou is committed to being a sustainability leader in its sector. The company has set itself the target of reducing its greenhouse gas emissions by 25% by 2030. It is also investing in the development of sustainable products and services, such as electric forklifts and autonomous machines.

Appendix 2 : The New Horizon 2025 strategy.

² <https://www.manitou-group.com/fr/>

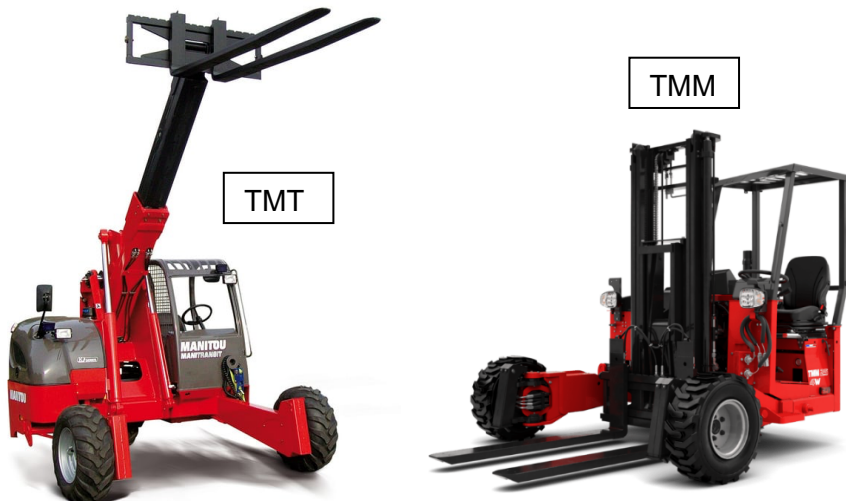
The Beaupréau production site (MFT)

Inaugurated in 1999, the Beaupréau site is a production unit (PU³) specialising in forklift trucks, known as Masted Forklift Trucks (MFT⁴). It holds a special place in Manitou's production network, with a turnover of 120 million euros in 2023.

This site is one of the Group's fastest-growing, with more than 150 employees now producing 2,300 machines a year (the target is 3,000 in 2024).

Two main categories of forklift trucks are produced at this site:

- Truck-mounted forklift (TMM and TMT): These trucks are designed to be mounted on the back or inside transport trucks.



- Standard masted forklifts (MSI, MC, and M): These are the standard forklift models, offering adaptability to the needs of each customer's business.



³ **PU**: Product Unit or Production Site

⁴ **MFT** : Masted Forklift Trucks

I) Market and Special Solutions

A. Market context and current dynamics

1. Strategic importance of purchasing at Manitou

Purchasing is a strategic area for Manitou, and by 2023 it will account for more than half the group's turnover and 2/3 of the turnover of the Beaupréau PU (€80 million).

The purchasing objectives are as follows:

- Ensuring the availability of the products and services needed to produce and market forklift trucks.
- Guaranteeing the quality of products and services purchased.
- Reduce purchasing costs.
- Improving supplier performance.

Since 2020, Manitou's purchasing organisation has been structured into two main divisions:

- The Products Division, which handles purchases of components and raw materials for the manufacture of forklift trucks.
- The Services Division, which covers the procurement of services such as maintenance, logistics and IT.

Manitou's purchasing policy is based on the following principles:

- Working with suppliers to develop sustainable partnerships.
- Encouraging suppliers to innovate.
- Working with suppliers who respect social and environmental standards.

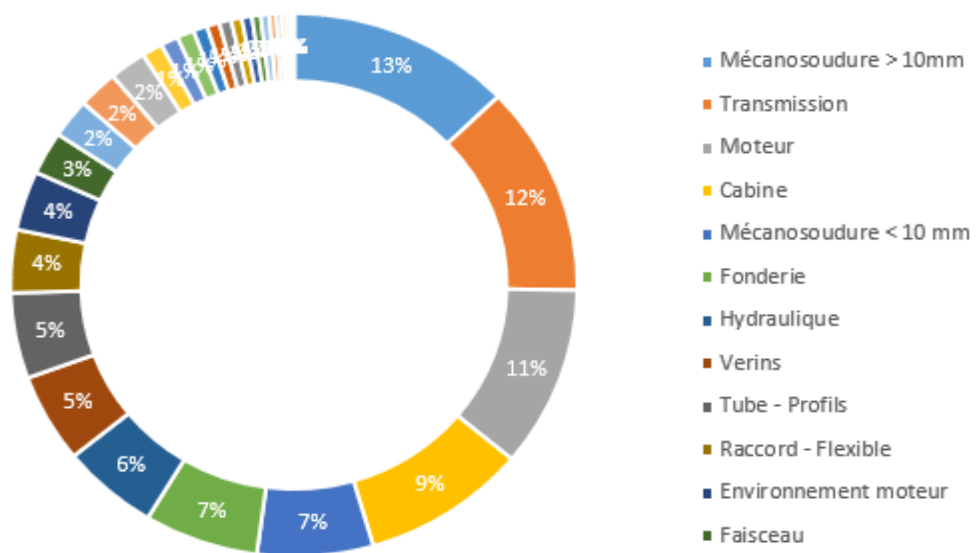
Appendix 3 : PESTEL of purchasing at Manitou

Appendix 4 : SWOT analysis of purchasing at Manitou

2. Purchasing segmentation at Manitou

There are therefore three main purchasing areas:

- Strategic purchasing (critical components and raw materials)
- Commodity purchases (purchases of non-critical components and raw materials)
- Purchasing services (logistics, maintenance and IT).



Expenditure Map at the Beaupréau site

3. Purchasing policy focused on CSR⁵ and innovation :

Manitou's purchasing policy is fundamentally linked to a strategy that values social and environmental responsibility as well as innovation. This approach is part of an ongoing effort to not only meet but exceed industry standards in terms of sustainable and ethical practices. Manitou has already taken significant steps in this direction.

Manitou strives to work with suppliers who share our values of sustainability and ethics. This includes encouraging suppliers to adopt environmentally responsible and socially equitable practices. The company prefers partners who innovate with respect for the environment, such as those who use recycled materials or deploy clean technologies in their production processes.

In addition, Manitou seeks to improve the performance of its suppliers through sustainable partnerships, encouraging open collaboration for the co-development of innovative and sustainable solutions. This is particularly visible in the Products Division, where purchases of components and raw materials are regularly assessed in terms of their environmental and social impact.

For example, Manitou organizes the 3rd edition of its digital event "On the Way Up," entirely dedicated to its CSR approach. This edition focuses on sustainable development initiatives and strategies to enhance the group's environmental and social commitment. The event includes presentations and discussions on best CSR practices, involving various industry actors and partners. It is presented as a TV show where Manitou invites all its suppliers. The 4th edition will be organized in June 2024.

Although Manitou has made a good start on this approach, there is still a long way to go, particularly in improving purchasing for special solutions. These purchases, often characterised by very specific needs and lower volumes, present unique CSR and innovation challenges. It is crucial to develop specific purchasing strategies for this category, incorporating more rigorous CSR criteria and strengthening collaboration with suppliers capable of responding flexibly and innovatively to special requests.

⁵ **CSR:** corporate social responsibility

B. The special solutions market and its strategic impact

1. Importance of special solutions

This dissertation focuses on Manitou's special solutions purchasing sector at the Beaulieu site. This sector specialises in supplying customised solutions to industrial, commercial and military customers. It meets the specific needs of customers who are increasingly looking for personalised solutions.

It is essential for three reasons:

- Differentiation from competitors.
- Penetration of new markets (military).
- Generate recurring revenue and high margins.

These solutions not only enhance operational efficiency but also significantly increase user safety. For example, Manitou has developed fire suppression systems for its machines, providing extra protection in high-risk environments. Additionally, the integration of rear-view cameras allows for precise pedestrian detection, thereby reducing the risk of accidents. Speed limiters and anti-start functions that activate when the seatbelt is not fastened are other examples of customized safety devices that illustrate Manitou's commitment to offering machines that are not only high-performing but also safe. These specific adaptations, designed to meet the unique constraints of each user and work environment, reinforce Manitou's position as an innovative leader in the material handling industry.

These so-called 'specials' correspond to all customer requests excluding catalogues and options. The main structure of the machines is the starting point for the requests, after which we apply technical or aesthetic modifications to meet the expectations of the end customer. We therefore use the data from the basic references, which we modify by creating new references.

Manitou manages these requests in project format, with weekly meetings gather the Special Solutions Committee (the design office, methods, scheduling, purchasing and logistics).



2. Business process for special solutions.

The development of special solutions at Manitou involves a detailed and collaborative process designed to meet the specific needs of each customer. This process begins with a thorough understanding of the customer's requirements and continues through design, production, and final delivery.

1) Initial consultation and requirements gathering

The process starts with a detailed consultation with the customer to understand their unique needs and challenges. This step is crucial for defining the specifications and scope of the project. The trade determines the machine price on the basis of the latest SS⁶ or standard reference price.

2) Design and engineering

The customer order is then processed by the design office, which is the first to provide information on modifications or the creation of new references, characteristic of a special solutions. Based on the gathered requirements, the design office creates initial plans and technical drawings. For instance, if a customer needs a machine for handling heavy pipes, Manitou engineers might develop a custom attachment like the potence à peson, which measures the traction force during pipe handling.

3) Methods and Scheduling

Once the reference has been established, it is managed by the methods and scheduling departments, which organise and set the line-up dates. Next, a structure is created in our ERP system⁷ by the same department to generate a requirement. This leads to the creation of a purchase order proposal sent to the relevant buyers.

4) Supplier Selection and Procurement

As soon as the requirement and all the necessary elements are available in our tools, the buyers begin a phase of analysis and reflection. This stage is crucial for selecting and sending out invitations to tender to the appropriate suppliers. The buyer begins by

⁶ **SS**: Special solutions

⁷ **ERP**: Enterprise Resource Planning, this software is used to manage all a company's processes by integrating its stakeholders.

consulting potential suppliers, then evaluates and selects the offer based on compliance with specifications, price, lead times, product quality, and the supplier's organisational and financial situation. If necessary, negotiations are held with the supplier before the product is purchased or the contract finalised.

5) Prototyping and testing

Once the design is approved, a prototype is built and rigorously tested to ensure it meets the required performance and safety standards. This phase often involves close collaboration with the customer to make any necessary adjustments.

6) Production and customization

After successful testing, the machine goes into production. This stage includes the integration of customized components such as fire suppression systems, rear-view cameras, speed limiters, or specific adaptations for challenging environments like mining. For example, machines might be equipped with enhanced protection systems and robust components to withstand harsh mining conditions.

7) Quality assurance and final approval

Each customized machine undergoes a thorough quality assurance process. The final product is reviewed and tested to ensure it meets all specifications and safety standards before being delivered to the customer.

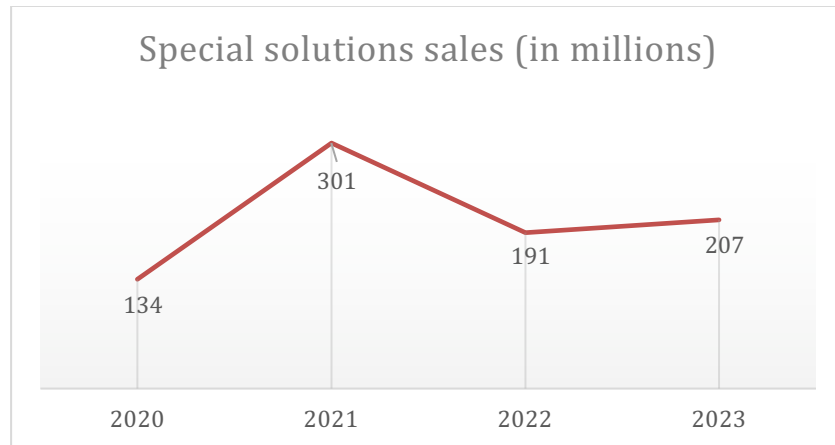
8) Training and support

To ensure optimal use and safety, Manitou provides training for the customer's operators. This includes detailed instructions on how to use the custom features and safety systems of the machine.

9) Ongoing collaboration and support

Post-delivery, Manitou maintains close contact with the customer to provide ongoing support and handle any maintenance or further customization needs. Regular feedback is gathered to continuously improve the solutions offered.

3. Development and performance of special solutions.

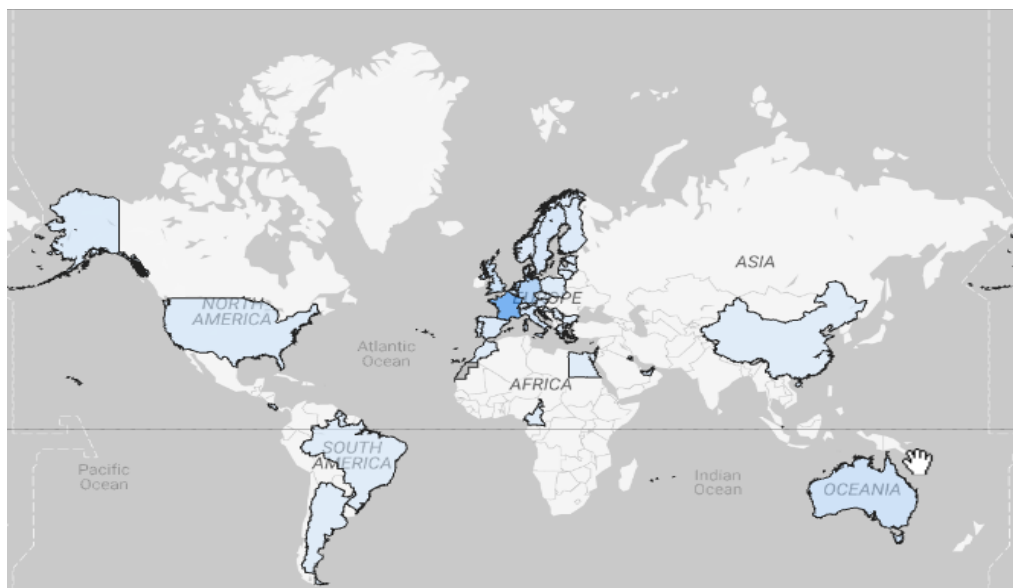


Manitou's SS business showed growth in both volume and financial value from 2020 to 2023, with forecasts indicating an acceleration for 2024.

Present on 6 PUs, they account for around 6% of Manitou's total orders, and this proportion has risen steadily since the post-pandemic period. The Beaupréau MFT PU accounted for 12% of Manitou's total SS sales, which are represented by a quarter of the PU's machines.

The average is 3.21 machines per SS and the weight of personalisation on the value of orders is around 7% of the selling price (4 000 €).

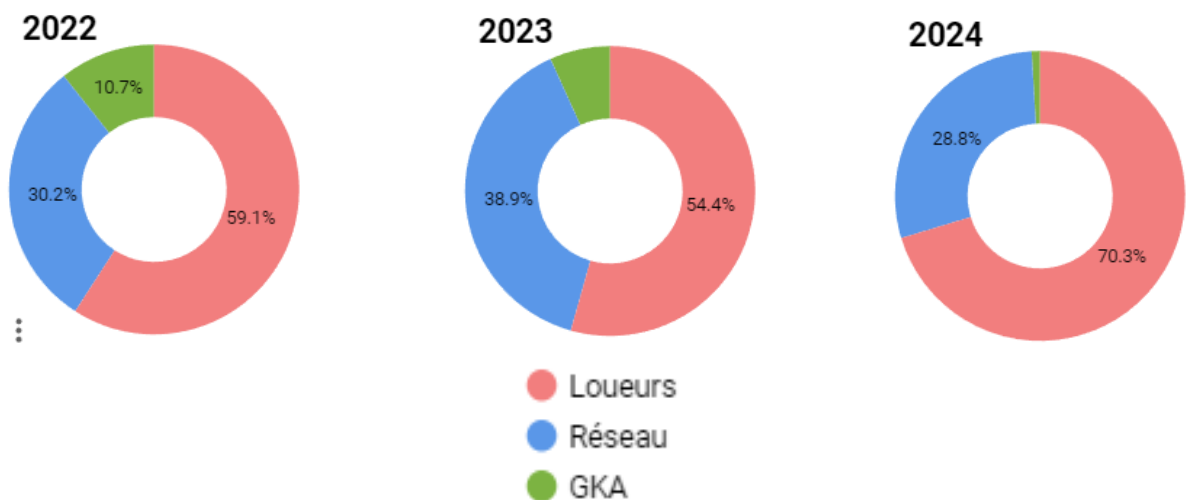
The international coverage of SS extends to 79 countries, illustrating the scale and global reach of its commercial operations.



International coverage of Special Solutions⁸

⁸ <https://www.manitou-group.com/fr/>

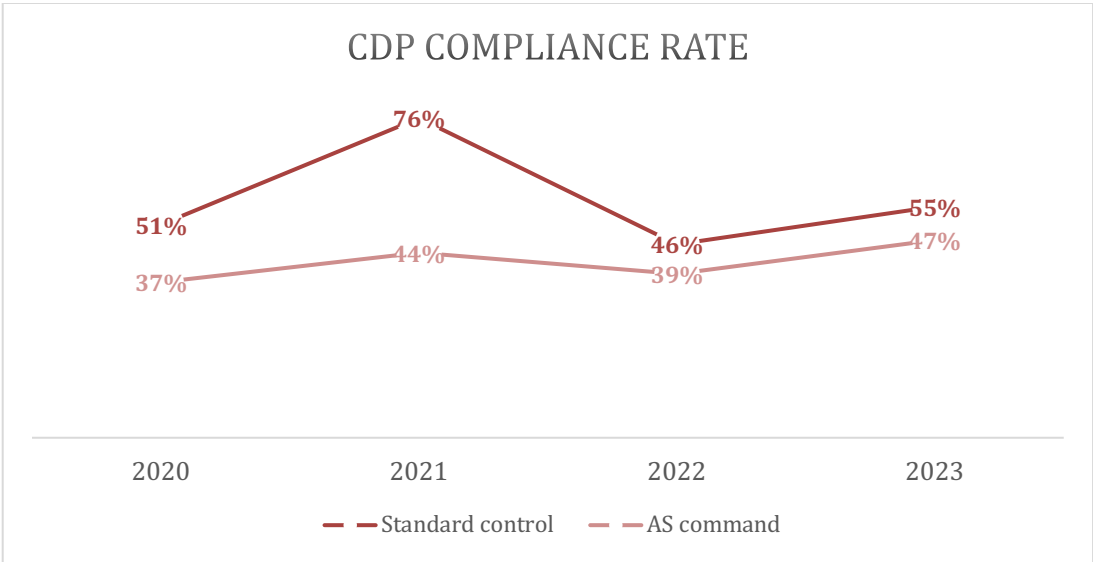
Equipment rental companies, as the main customer segment, occupy a significant majority, which will grow even larger in 2024.



Breakdown of Special Solutions customers on the PU MFT

9

Standard orders respect the CPD¹⁰ better than orders with special solutions. Although these orders are on the increase, more than half of them are still delivered late.



⁹ **GKA:** key accounts

¹⁰ **CPD:** Contracted Delivery Period.

Concrete examples of the performance of special solutions include equipment for mining operations and adaptations for users with disabilities. Manitou has developed robust machines equipped with enhanced protection systems and durable components to withstand the harsh conditions of mining environments. For instance, customized telehandlers for mining are equipped with additional safety features such as fire suppression systems and reinforced structures to protect operators.

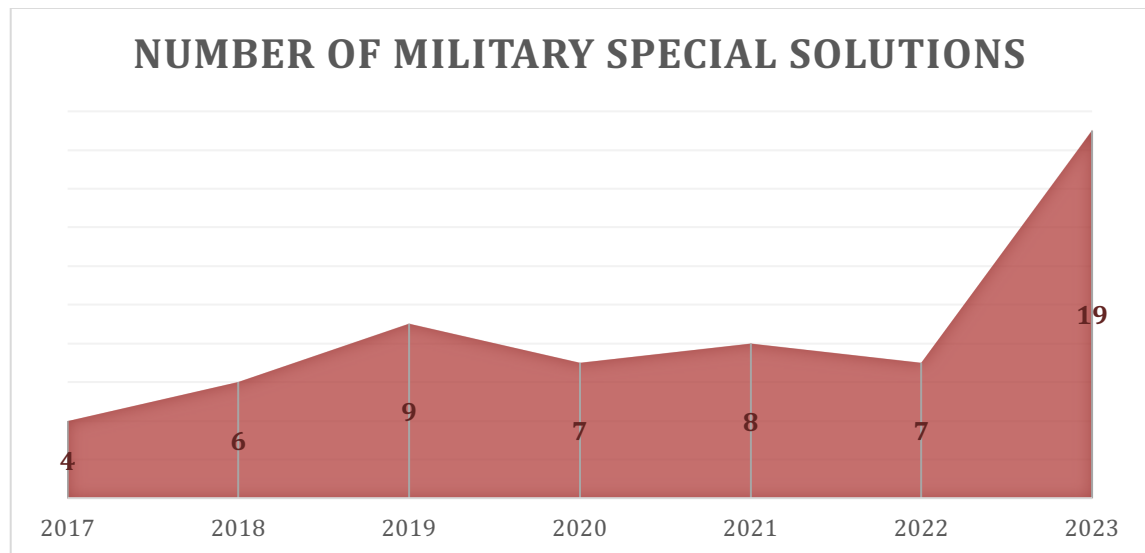
MT-X 733 Mining



Furthermore, Manitou has also addressed the needs of users with disabilities by customizing equipment to ensure accessibility and ease of use. An example of this is the adaptation of a Manitou MLT 1040 telehandler for an agricultural user in Alsace who has a prosthetic arm. The ergonomic modifications included relocating the joystick functions to the left side of the cabin, enabling the user to operate the machine safely and efficiently. This type of customization not only meets the specific needs of individual users but also demonstrates Manitou's commitment to inclusivity and safety.

These detailed statistics and concrete examples highlight the significant impact and growing importance of special solutions within Manitou's overall strategy.

One market segment has also stood out in recent years: the military sector.



This new orientation is mainly motivated by current geopolitical dynamics, marked by growing tensions. Since the Russian-Ukrainian conflict, many countries have increased their defence budgets. This is reflected in the orders placed with Manitou by various armed forces, such as Australia, the United Kingdom, Greece, Switzerland, Italy and France since 2022. These orders, sometimes exceeding 100 machines, highlight the demand for special, sometimes highly technological, equipment.

The focus on this market is indicative of our strategic diversification and ability to adapt to growing markets.



Machines for the Italian Air Force (2023)

C. Strategic purchasing challenges for Special Solution.

1. Purchasing management

The way in which special solutions purchases work is special because they are operational purchases.

However, due to the complex nature of this purchasing category, which is characterised by infrequent and generally low-volume orders, no specific purchasing strategy has yet been put in place.

The Beaupréau site therefore adopts the same purchasing process as the rest of the group, thanks to various established standards. Buyers work closely with all departments on the production site.

Processing purchase requisitions, analysing and negotiating offers, placing firm orders, securing orders (lead times), creating summary tables to analyse delivery information and acquisition costs, and managing invoice disputes are all crucial actions within this purchasing family.

In 2023, the Beaupréau portfolio accounted for €2 million in purchases, representing 2.5% of the PU's total purchases.

2. Features of special solutions

Special solution orders account for a quarter of all orders. There were 165 such orders in 2023 (around 600 machines) at the Beaupréau site. Here are their features:

- Modifications and customised accessories

Special solutions frequently involve adaptations such as specific adhesives (15% of SS), adapted tyres (10%), safety and protection equipment (15%), as well as the addition of lifting and handling accessories (present in almost half of them). Other requirements, such as the application of custom colours (a quarter of SS) or anti-corrosion paints, are also common.



M forklifts for BOELS rental company (colour + stickers)



MSI forklift for DUMA rental company (forks + stickers)

- Small series production

A notable feature of special orders is their low volume of machines, mainly less than ten units per project (on average between 3 and 4 machines per SS). This contrast with mass production presents unique challenges in terms of cost, stock management and logistics. The ability to manage these small batches effectively is vital to maintaining production flexibility while satisfying customers.

- Critical delivery times

Delivery times are of vital importance, with financial penalties for any delay, particularly for military customers. Rigorous planning and project management are essential to secure deadlines and minimise the risk of delays, underlining the importance of punctuality to reputation and customer satisfaction.

These particularities have a direct impact on purchasing strategy and supply chain management:

- Diversity of suppliers: The variety of demands requires a wide range of suppliers specialising in specific areas, requiring close communication and collaboration to co-develop appropriate solutions and minimise risks.
- Real-time stock monitoring: A real-time tracking system, capable of signalling specific parts requirements for each project, is crucial.
- Adopting just-in-time: This inventory management method, ordering components only when they are needed for production, helps to reduce storage costs and prevent the obsolescence of infrequent parts.

The management of these SS, with its high degree of customisation and small-scale production, underlines the crucial importance of an appropriate purchasing and supply strategy. This need for flexibility and agility naturally leads to the next major challenge: supplier selection.

3. Challenges in selecting suppliers

a) Complexity of special requests

The selection of suppliers for SS purchases presents a complex challenge in view of the points discussed above. Given that Manitou's PUs operates primarily as assembly units, the importance of carefully selecting the suppliers who supply us is sometimes critical.

Firstly, there is limited visibility. special solutions often suffers from a lack of clear visibility in terms of requirements, due to its non-recurring and often unpredictable nature. This leads to additional costs in the acquisition of parts, due to small quantities and sometimes short lead times, making forecasting difficult both for us and for our suppliers, who may have to react in a hurry.

Customer requirements for special solutions also highly variable and can be complex. They can be relatively simple, involving few changes to the standard machine (such as the application of a specific colour or special branding), but can also require complex technical or aesthetic modifications (military technologies, specific accessories, etc.).

The recent surge in demand from the military sector also introduces a unique set of challenges for the purchasing department.

One of the main obstacles is the complexity of the modifications, both technical and aesthetic, which often have to be supervised by the purchasing teams when selecting suppliers. The latter are essential in identifying partners capable of best meeting the strict criteria required to satisfy the specific needs of our customers.



MC 30-2 avec protection anti-corrosion

b) Project management and interdepartmental coordination

Special solutions, managed in the form of projects, highlight the importance of communication and collaboration between all departments, as mentioned in the process described above.

This requires intensified coordination and communication between different departments, such as the design office, logistics, methods and scheduling. Adopting a

project-based management approach is vital to keep all stakeholders on the same wavelength in terms of objectives, schedules and quality standards, ensuring that special orders are carried out smoothly and efficiently.

c) Impact of supplier selection on logistics

Logistics and stock management are key factors in the selection of suppliers for Manitou's special projects. This includes the management of SS components, requiring meticulous logistical coordination and adaptive planning to avoid any disruption to normal operations and control costs.

Some critical components, such as brake valves, require immediate availability because of long lead times for restocking.

d) Consequences for quality, cost and delivery

The importance of careful supplier selection at Manitou goes beyond the simple acquisition of components; it directly affects the quality, production cost and reliability of equipment delivery times.

Choosing partners who adhere to high quality and safety standards, certified by standards such as ISO 9001¹¹ and ISO 14001¹², is essential to guarantee the performance and durability of the end products. Inspections and testing of parts, including new SS references for tyres or hydraulic systems, are essential to prevent failures that could compromise user safety and lead to high maintenance costs for Manitou, not to mention risks to its reputation.

The ability to negotiate effectively and estimate the TCO¹³ of components is important, particularly in a context where long-term supply contracts (open contracts) are limited by the instability of demand in this SS market. A poor choice of suppliers can result in higher production costs, reduced profit margins and, ultimately, a reduction in Manitou's competitiveness in the market.

¹¹ **ISO 9001**: standard for quality management.

¹² **ISO 14001**: standard for environmental management systems

¹³ **TCO**: Total Cost of Ownership, the overall cost of owning a product (maintenance, acquisition costs, insurance, etc.).

II) Supplier evaluation and selection strategies

A. Strategic approach to supplier evaluation and selection

1. Current practices in supplier selection

Following the analysis of the special solutions market and the understanding of the issues related to the selection of suppliers for this business, we will now examine the strategy adopted by Manitou, at the Beaupréau site, for the evaluation and selection of these suppliers.

For a supplier to be chosen for special solutions, it is generally necessary for them to already be part of our supplier repertoire, having been previously selected by the family of standard references buyers.

There is a well-defined procedure for bringing a new supplier on board at Manitou, which emphasises the importance of collective decision-making and rigorous evaluation. The buyer interested in adding a new supplier must first present them to a SOCO¹⁴. The composition of this committee varies according to several factors, including the potential turnover of the new supplier, the Manitou sites that will be affected by the collaboration and any supplier risks (financial, compliance, CSR, dependency, country...).

Appendix 5: All supplier risks

Manitou's strategy for selecting suppliers is based on a comprehensive approach, aimed at excellence and adaptation to the current challenges of the industrial sector. It is based on an in-depth evaluation of suppliers according to several criteria, including technical competence, reliability, financial soundness, and social and environmental responsibility. Secondly, for SS, we need to select suppliers who can move away from standardised production methods to adopt more flexible approaches, not only in terms of production but also in terms of their ability to adapt quickly to changes in demand.

However, there is no systematically applied tool or process for selecting a supplier for special solutions. This approach is somewhat distinct from usual practices, such as the use of a supplier evaluation grid, audits or visits to production sites. In the context of special solutions, selection is often more flexible and less formal.

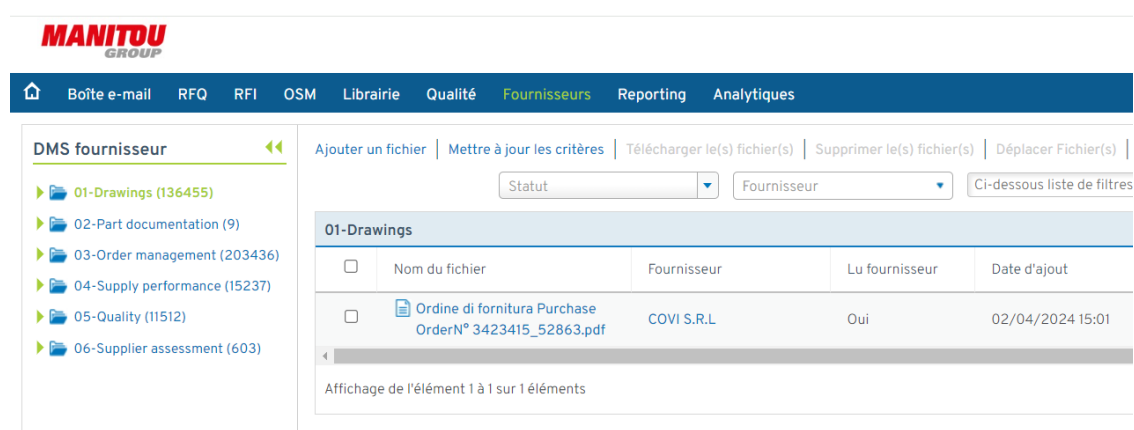
¹⁴ **SOCO**: Sourcing Committee, a meeting with the key players to take one or more decisions. It is held for a strategic issue.

2. Managing relations and negotiations with suppliers

When managing relationships and negotiations with its suppliers, Manitou takes a highly collaborative approach, based on mutual trust and building a strong partnership. The company engages in discussions focusing on key elements such as quality, reliability, cost management and compliance. This strategy includes regular monitoring and evaluation of supplier performance, which is essential to ensure compliance with Manitou's required standards and to identify opportunities for improvement.

This focus on excellence is largely facilitated by the Manitotogether supplier portal, a digital tool hosted by the LiveSource platform. This tool is designed to optimise supplier management by offering a range of functionalities across several menus such as RFI¹⁵, RFQ¹⁶, quality management, OSM¹⁷, orders, etc.

This portal is a key vehicle for effective communication and is also used in a similar way for special solutions purchasing. However, it should be noted that not all suppliers have yet adopted this system. Manitou is therefore actively engaged in encouraging the use of this portal amongst its suppliers, highlighting the importance of this tool in strengthening relationships and improving trade management.



Portail MANITOGETHER (intranet Manitou)

¹⁵ **RFI**: request for information

¹⁶ **RFQ**: request for quotation

¹⁷ **OSM** : “Open Street Map”, projet de cartographie collaborative et libre.

B. Supplier evaluation methods

1. Multidimensional assessment criteria

Manitou uses a broad set of criteria to evaluate its suppliers:

Technical criteria: Suppliers are carefully assessed on their ability to meet the technical requirements of Manitou's products, including aspects such as manufacturing, quality control and innovation.

A telling example of this requirement is the supply of cold-treated diesel (formulated to resist crystallisation and icing in very cold conditions) suitable for machines intended for use in extremely cold environments, as is the case in the Nordic countries. This type of fuel needs to have specific characteristics to ensure that the machines operate optimally, even at very low temperatures. This requires not only specialist technical expertise from suppliers, but also a strong commitment to innovation.

Economic criteria: The economic evaluation includes an analysis of the TCO, which includes not only the purchase price, but also ancillary costs such as transport, maintenance and the life of the product. This analysis helps to ensure the economic viability of long-term purchases, the profitability of suppliers, and the establishment of flexible payment terms to optimise cash flow management and minimise financial risks.

Compliance criteria: The selection of suppliers also considers their compliance with legal, environmental and safety standards. This is particularly crucial for special orders, such as those for military customers, where compliance with safety and emissions standards is imperative. Suppliers must also be committed to sustainable practices and comply with international safety standards.

2. Assessment tools and techniques

To evaluate these suppliers, Manitou uses both qualitative and quantitative techniques as well as analytical tools:

- Supplier audits: These audits aim to thoroughly assess the production capabilities, quality control and environmental compliance of suppliers. They are based on on-site visits to inspect facilities and manufacturing processes, as well as an examination of the supplier's documents and procedures. This rigorous approach enables us to identify the supplier's capacity to adapt and its compliance with environmental standards.

- Qualitative and quantitative evaluation: Manitou's supplier evaluation includes qualitative aspects, such as customer satisfaction, responsiveness, and quality of communication, and quantitative measures, such as on-time delivery, product quality, and failure rate. Key Performance Indicators (KPIs) are used to objectively compare suppliers and identify areas for improvement.

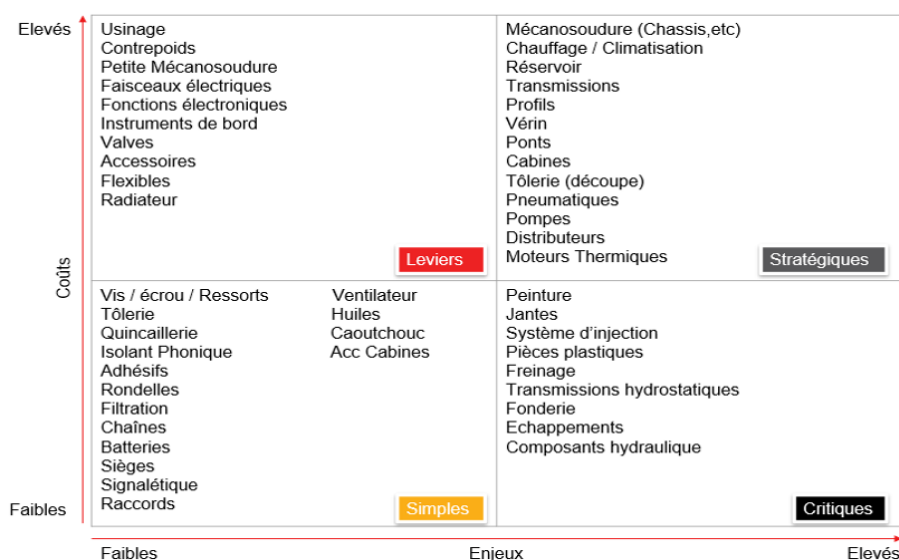
At present, a central tool in SS purchasing management is a dashboard shared with the logistics department. This dashboard is proving to be quite effective for monitoring deliveries. It provides a useful overview of the progress of orders and enables potential delays to be detected. This close collaboration between purchasing and logistics facilitates more responsive management of material flows and delivery times.



Order tracking dashboard (intranet Manitou)

However, beyond tracking deliveries, specific tools for assessing supplier performance and managing risks in the supply chain remain underdeveloped for purchases linked to special solutions. There are as yet no dedicated indicators or scoring to systematically measure the reliability, quality or impact of suppliers on costs and lead times in these specific transactions.

- Analytical tools: The Kraljic matrix helps to rank suppliers according to their strategic importance and supply risk, and the ABC analysis prioritises purchased items according to their importance. These tools help to focus attention and resources on the most critical aspects of the supply chain.



Kraljic matrix of Beaupréau's purchasing families

Famille	SUM of Total	SUM of Total	Pourcentage cumulé	Classe ABC
Accessoires	€574,821.59	47.15%	47.15%	A
Soudure	€235,409.85	19.31%	66.46%	A
Cabine	€134,560.65	11.04%	77.50%	A
Roue	€62,108.69	5.09%	82.60%	A
Tolerie	€39,397.32	3.23%	85.83%	B
Batterie	€28,895.20	2.37%	88.20%	B
Electronique	€27,075.50	2.22%	90.42%	B
Verins	€25,133.24	2.06%	92.48%	B
Affaire Spéciale	€17,120.28	1.40%	93.89%	B
Environnement moteur	€16,100.82	1.32%	95.21%	B
Divers électrique	€10,223.40	0.84%	96.04%	C
Fixation	€9,102.67	0.75%	96.79%	C
Raccord - Flexible	€7,739.26	0.63%	97.43%	C
Fonderie	€7,472.96	0.61%	98.04%	C
Faisceau	€6,915.44	0.57%	98.61%	C
Plastiques	€4,188.07	0.34%	98.95%	C
Tube - Profils	€3,632.06	0.30%	99.25%	C
Etanchéité	€3,571.01	0.29%	99.54%	C
Adhésif	€2,339.55	0.19%	99.73%	C
Hydraulique	€1,985.32	0.16%	99.90%	C
Eclairage	€693.10	0.06%	99.95%	C
Chaine	€301.12	0.02%	99.98%	C
Chimiques	€274.50	0.02%	100.00%	C

ABC analysis of Special Solutions purchases on PU MFT

- Corporate social responsibility :

Lastly, Manitou has adopted EcoVadis, a leader in CSR assessment to strengthen its sustainable purchasing strategy. The aim is to assess and improve the environmental, social and ethical practices of its suppliers. This partnership underlines Manitou's commitment to integrating sustainability throughout its value chain.

The deployment of EcoVadis at Manitou began with the mapping of suppliers' CSR risks, using the IQ module to identify specific risks. This enables precise identification of the risks linked to each supplier according to their sector of activity, size and geographical location. This step makes it easier to prioritise suppliers for more detailed assessments using the "Ratings" module, focusing efforts on those identified as high or very high risk.

Manitou's buyers are trained to engage suppliers effectively, explaining the benefits of CSR assessment and supporting them through the process. This collaborative approach aims to encourage suppliers not only to participate in the assessment program but also to commit to continuous improvement in their CSR practices.

The results of the assessments provided by EcoVadis play a crucial role in Manitou's selection of suppliers. Based on reliable and globally comparable scores, Manitou can make informed decisions, favouring suppliers who demonstrate superior sustainability performance or supporting suppliers with the lowest scores.

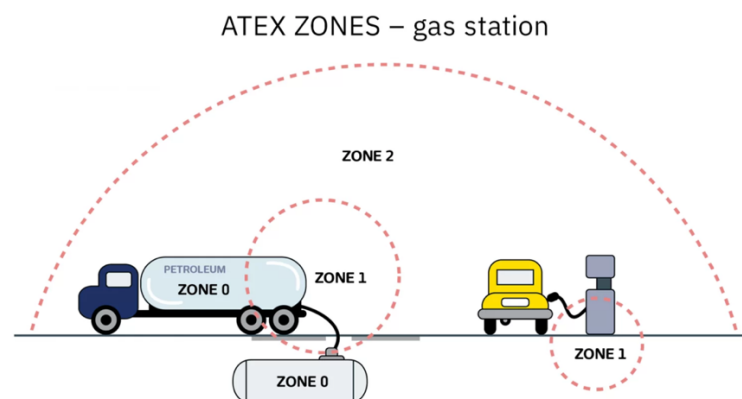
However, this approach illustrates a contradiction: it aims to promote sustainable purchasing practices, but the need to minimise costs through global sourcing may seem contrary to the principles of sustainability. This conflict highlights the challenge of reconciling economic objectives with CSR commitments, a tension between competitiveness and adherence to high ethical and environmental standards. For Manitou, achieving a balance requires a considered strategy and the adoption of practices that marry social responsibility with economic performance.

C. Compliance with standards for special solutions

In the context of special projects, Manitou is committed to meeting specific standards, which implies a similar requirement of its suppliers. This is essential when selecting suppliers for these projects, where standards such as Atex are taken into consideration. This standard, regularly requested in orders for the armed forces, is a set of European Union directives designed to ensure safety and protection in environments where explosive atmospheres may occur. It concerns the design, manufacture and marketing of equipment and protective systems intended for use in such environments, as well as the safety of workers exposed to these risks.

It involves several specific stages and considerations before the supplier is selected:

- Identification of ATEX requirements: Determine the precise requirements of the ATEX standard applicable to masted forklift-trucks, depending on their potentially explosive area of use (zone 0, 1 or 2 for gases and zones 20, 21 or 22 for dusts).
- Design and adaptation: Trucks must be designed or adapted to meet these requirements. This may include the use of non-sparking materials, protection of ignition sources (such as electric motors and electrical circuits), and containment of potential explosions within certain equipment.
- Certification: Adapted mast trucks must be certified by a notified body, proving their compliance with the ATEX directives. This includes testing and assessment to ensure that they meet the required safety standards.



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¹⁸ <https://www.premixgroup.com/where-to-use/atex-ex-environments/>

By taking all these requirements into account beforehand, we can begin to select the supplier for these special standards.

More generally, for military orders, Manitou requires strict compliance with quality and safety standards, including ISO certifications and stringent military standards. Suppliers must hold recognised certifications, such as ISO 9001 and 27001¹⁹, and demonstrate a strong commitment to quality and safety in their operations.

Examples of specific certifications and safety standards that suppliers must comply with include:

- Fire and engine compartment protection: Suppliers providing components for special solutions must ensure that the equipment, such as fire suppression systems and protective grilles for lights and engine hoods, meet stringent safety standards.
- Protective grilles: For machines operating in rugged environments, protective grilles for lights and engine hoods are essential to prevent damage and ensure operator safety. These grilles must meet specific safety criteria to be effective.

This compliance requirement generates significant benefits for Manitou, such as ensuring flawless performance and reliability of products and services, minimising the risks associated with failures, delays and non-conformities, and reinforcing its reputation as a reliable supplier that complies with the strictest international standards.

¹⁹ **ISO 27001**: standard focusing on information security management.

III) Recommendations and implementation

A. Development of a supplier selection strategy

1. Background and strategic issues

We now turn to the third section of this thesis, which focuses on recommendations and implementation in relation to the above issue. In view of the elements analysed above, it seems appropriate for Manitou to develop a bespoke supplier selection strategy for SS.

Keeping up with market trends involves several key challenges:

- Understanding customer needs: Manitou's customers demand high-performance, reliable equipment that can operate flawlessly, even in difficult conditions. Durability and safety are also essential criteria.
Manitou's military customers often require customised equipment to meet unique operational needs. For example, some request that machines be fitted with sturdy rear hooks to allow for air transport via helicopter lifting, underlining the importance of versatility and mobility in a military context.
- Supply chain risk assessment: Component shortages and geopolitical disruptions represent significant risks, which can lead to delays in production and delivery. A striking example is the disruption of traffic in the Suez Canal due to Israeli-Palestinian tensions, directly affecting our operations. For an urgent order for the Australian army, we were waiting for the rapid delivery of custom-made gearboxes from Asia. The impossibility of using the Suez Canal forced these shipments to take a much longer route around Africa, adding two weeks to the transport time. This situation underlined the importance of pre-emptive planning in the face of critical and urgent needs.
- Staying at the forefront of emerging technologies: The adoption of innovative technologies such as artificial intelligence can transform supplier selection by optimising processes and enabling greater personalisation.
- Identifying market trends and emerging technologies: Continuous technology monitoring enables us to remain competitive, innovate and adjust our selection of suppliers in line with the latest advances and market trends.

2. Benchmarking and competitive analysis

Benchmarking²⁰ is essential for continuous improvement at Manitou, especially when it comes to selecting the right suppliers for special solutions projects. Examining the tactics of leading materials handling companies, such as JCB, reveals best practice methods for refining special project management, risk management and contract formalisation.

a) JCB

Positioning JCB:

JCB is a key player in the field of construction equipment, standing out for its technical expertise and commitment to innovation. The company has developed a varied range of products, such as these mast trucks, designed to meet specific requirements thanks to a policy of customisation and an ability to respond quickly to customer requests.

JCB forces in special solutions :

- JCB continually invests in research and development, enabling it to offer innovative solutions tailored to special projects. For example, the development of electric machines to meet today's environmental concerns illustrates this capacity for innovation.
- JCB is distinguished by its centralised organisational structure, which allows it to react quickly to specific customer requests. This centralisation facilitates rapid decisions when developing customised products, supported by specialist teams such as JCB Special Products. These teams enable the agile adaptation of standard products to meet specific requirements, using an integrated logistics and supply chain to reduce production and delivery times.
- JCB's global presence enables it to address a wider market and respond effectively to special projects on an international scale, taking advantage of its extensive distribution and after-sales service network.

²⁰ **Benchmark:** This is internal or external monitoring to analyse competitor practices.

JCB's weaknesses compared to Manitou:

- Market segmentation: While JCB excels in construction and agricultural environments, Manitou could have an advantage in niche markets such as the military, thanks to its extensive customisation strategy and customer-focused approach.
- Approach to sustainability: While JCB is making progress in the area of green equipment, Manitou could distinguish itself with a more pronounced sustainability strategy, integrating environmental considerations throughout the lifecycle of its products.
- Cost management: Advanced customisation and rapid response to special solutions can lead to additional costs for JCB, potentially higher than at Manitou, where process optimisation and partial standardisation of components could offer better cost control.

JCB success story:

A prime example of JCB's special solutions expertise is its ability to provide equipment tailored to the requirements of mining sites. For example, JCB has developed wheel loaders and excavators specifically designed to operate in extreme conditions, offering enhanced strength, safety and performance. These machines, equipped with pressurised cabs and advanced filtration systems to protect operators in dusty environments, illustrate JCB's commitment to meeting the specific needs of its customers.

Inspired by JCB, Manitou may consider expanding its product range to include innovative equipment that caters for specific market niches. This could, for example, include the development of highly customisable electric forklifts for sectors such as recycling, green logistics and operations in sensitive environments.

Also, JCB's close cooperation with its suppliers and partners could lead Manitou to seek strategic alliances to co-develop advanced technological solutions. These partnerships could focus on improving energy efficiency, reducing emissions and increasing the operational safety of equipment.

Finally, while JCB is making progress in green equipment, Manitou can further differentiate itself through a strong commitment to sustainability. This could mean incorporating recycled materials into production, reducing the carbon footprint of equipment and offering end-of-life machine recycling programs.

In comparison, JCB may be quicker to market thanks to its ability to centralise decisions and mobilise internal resources quickly. However, Manitou could benefit from better long-term integrations with suppliers thanks to its sustainable engagement strategy, which can be essential for projects where compliance with environmental and social regulations is critical.

b) Caterpillar

Innovations, sustainable development, and CSR:

Caterpillar invests heavily in research and development to maintain its position as a leader in innovation, with a strong focus on sustainability and corporate social responsibility (CSR). The company has launched several initiatives aimed at reducing the carbon footprint of its products, including the development of electric and hybrid machines. Caterpillar is also committed to reducing its greenhouse gas emissions by 30% by 2030.

In terms of CSR, Caterpillar implements equipment recycling programs at the end of their life cycle, contributing to the circular economy. The company also strives to improve working conditions in its supply chain by ensuring its suppliers adhere to strict standards regarding human rights, working conditions, and environmental practices. Caterpillar regularly publishes detailed sustainability reports outlining its progress and initiatives in CSR.

Supplier relations and CSR:

Caterpillar's procurement strategy focuses on creating sustainable and innovative partnerships with its suppliers. The company uses an advanced digital platform called Cat Connect to optimize supplier management and ensure compliance with quality and

sustainability standards. This platform allows integrated data management, facilitating communication and collaboration with suppliers.

Caterpillar favors suppliers capable of providing advanced and environmentally friendly technological solutions and implements training programs to help suppliers improve their practices. Additionally, Caterpillar requires its suppliers to adhere to a strict code of conduct that includes social and environmental responsibility criteria, ensuring the entire supply chain meets high ethical standards.

Specific project example with a CSR dimension:

A notable example of Caterpillar's innovation is the launch of the 336E H hydraulic hybrid excavator, which offers a fuel consumption reduction of up to 25% compared to conventional models. This project involved close collaboration with several suppliers to develop specialized and integrated components. Suppliers were involved from the early development stages, allowing for the optimization of component design for maximum energy efficiency.

By integrating recycled materials and sustainable manufacturing processes, Caterpillar not only reduced production costs but also minimized the environmental impact of this machine. This collaborative and sustainable approach ensured a quick market launch while meeting the company's CSR objectives.

c) Komatsu

Innovations, sustainable development, and CSR:

Komatsu stands out for its continuous efforts in innovation and sustainable development, fully integrating corporate social responsibility (CSR) into its strategies. The company invests in cutting-edge technologies such as automation and electrification of equipment. Komatsu has also set an ambitious program to achieve carbon neutrality by 2050.

Komatsu is committed to robust CSR practices, including using recycled materials in manufacturing its machines and adopting eco-friendly production processes. The

company promotes waste reduction and energy consumption initiatives in its factories. Komatsu collaborates closely with its suppliers to ensure adherence to ethical and environmental standards throughout the supply chain.

Supplier relations and CSR:

Supplier management at Komatsu is based on principles of collaboration and innovation, with a strong CSR component. Komatsu uses advanced supplier management systems to ensure transparent communication and continuous improvement. The company favors suppliers who can meet strict quality, sustainability, and technological innovation requirements.

Komatsu regularly organizes workshops and training sessions for its suppliers to share best practices and encourage collaborative innovation. Furthermore, Komatsu requires its suppliers to adhere to strict standards regarding human rights and environmental impact, contributing to a more sustainable and ethical supply chain.

Specific project example with a CSR dimension:

Komatsu developed the Autonomous Haulage System (AHS), which enables the operation of driverless mining trucks. This project required intensive collaboration with suppliers specializing in sensor and communication technologies. Suppliers worked closely with Komatsu engineers to integrate advanced detection systems and navigation algorithms, ensuring the safety and efficiency of autonomous operations.

In addition to operational benefits, this project highlights Komatsu's CSR commitments. Autonomous trucks not only reduce risks for workers but also lower greenhouse gas emissions through optimized resource use. Komatsu also ensured that the components used were made from sustainable materials and that suppliers adhered to eco-friendly manufacturing practices, illustrating Komatsu's commitment to innovation and sustainability.

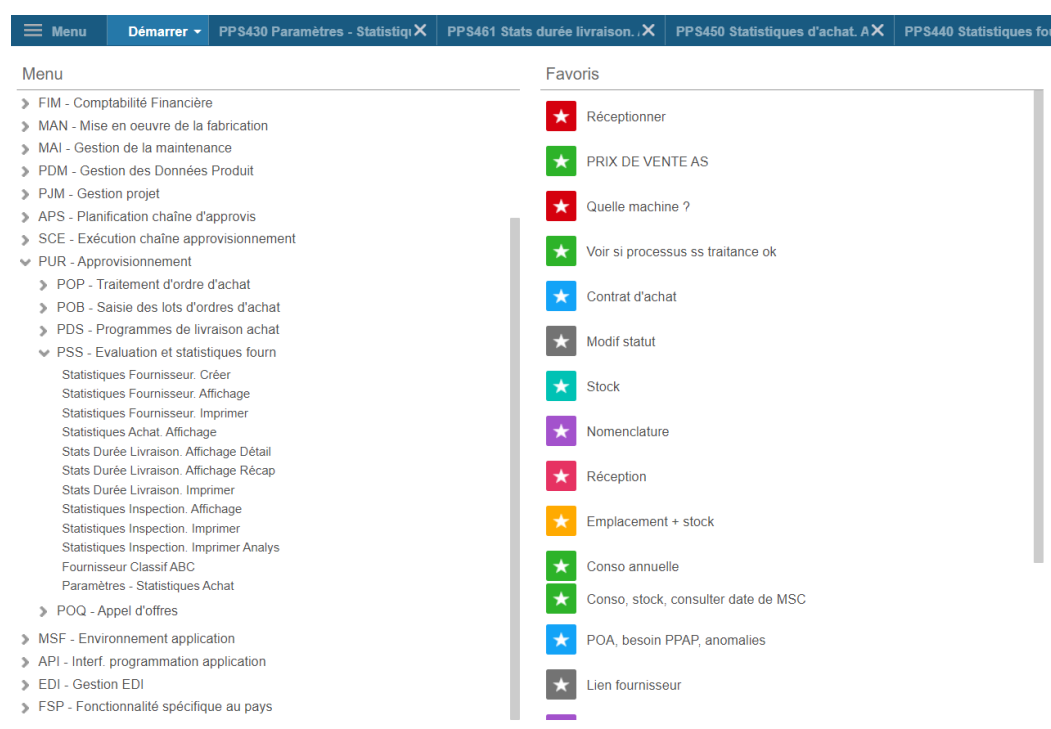
B. Implementation of analysis and assessment tools

1. Optimisation of analytical tools

To refine its supplier selection strategy, Manitou can turn to a wide range of tools and resources specifically designed for this task. The use of these solutions not only automates and simplifies the selection process but also ensures a precise match with defined requirements, effectively contributing to the achievement of strategic special solutions objectives.

a) Using ERP to analyse data

Manitou's M3 ERP system, by collecting a vast amount of data on suppliers and special solutions references, is proving to be an essential starting point for analysis. This platform can be used to identify the most significant partners based on their historical contribution and performance.



ERP "M3" home page (Intranet Manitou)

b) Creation of assessment tools

It would make sense for Manitou to implement a multi-factor evaluation of SS suppliers. Current practice is to favour established suppliers who work with Manitou on standard components. However, the introduction of a multi-factor assessment would significantly enhance this process. This approach would make it possible to examine suppliers not only from an economic point of view but also by considering their technical expertise, their compliance with regulations and their capacity to innovate.

This is done in the form of:

- Weighted evaluation grid: A grid is used to evaluate each criterion objectively, by assigning relative weights to the importance of each criterion.

Example for the two suppliers of adhesives to the SS in Beupréau:

Criteria	Weight	Multigraphic	Akzonobel
Adhesive quality	25%	5	4
Prices	20%	3	4
Product availability	15%	4	4
Logistics / Procurement	10%	4	4
Environmental compliance	10%	4	4
Innovation	10%	4	3
Supplier reliability	10%	4	3
Total	100%	4,05	3,80

- Multi-criteria rating system: The development of a rating system based on several objective criteria specifically for SS for a holistic evaluation of suppliers. The criteria should include, but will not be limited to, the supplier's experience, capacity for innovation, operational flexibility, as well as environmental and social responsibility performance. Selection should give priority to suppliers capable of adjusting quickly to fluctuations in demand. The weighting of these criteria should be adapted to Manitou's specific needs and the involvement of stakeholders in the evaluation process should be encouraged to ensure informed decision-making.

Here is an example of a standard multi-criteria grid for evaluating Manitou's SS suppliers:

Index	Criteria	Weighting	Note/5	P
1	SERVICE PROPOSAL	25		
A	Supplier experience (track record on similar projects)	10		
B	Operational flexibility	10		
C	Support and after-sales service	5		
2	TECHNICAL PROPOSAL	25		
A	Technical quality (compliance with specifications, certifications)	10		
B	Capacity for innovation	10		
C	Durability of solutions	5		
3	ECONOMICAL OFFER	20		
A	Competitive pricing	10		
B	Terms of payment	5		
C	Total cost of ownership	5		
4	RISK / OPPORTUNITIES	20		
A	Financial stability	5		
B	Environmental and social responsibility	10		
C	Crisis response capability (risk management and business continuity)	5		
	TOTAL	100		

- Global supplier rating: A comprehensive global rating system could be established, incorporating weighted evaluation criteria to assess the overall performance of suppliers. This system would measure their ability to meet Manitou's purchasing, quality, logistics, technical, and CSR objectives. It would also assist in defining or maintaining a panel²¹ of suppliers over the medium and long term.

Purchasing score (30%) :

- Competitiveness (60 points): Assessment focusing on the supplier's ability to offer competitive rates for specific, low-volume orders, while maintaining a favourable impact on TCO and ensuring productivity adapted to one-off requests.
- Risk Coverage (20 points): In-depth analysis of the supplier's ability to manage specific special solutions risks, such as dependence on scarce

²¹ **Panel:** This is a group of suppliers who form part of a purchasing portfolio/family.

components, industrial and environmental risks, as well as supply chain risks and the ability to react quickly.

- Collaboration and Relationship (15 points): Assessment of the quality of the collaboration between Manitou and the supplier, about the management of communication and discrepancies, as well as availability and responsiveness to urgent needs.

Logistics rating (20%): Specific examination of the supplier's logistics, focusing on its ability to respond flexibly and efficiently to complex and urgent logistical requests (urgent order service rate, reliability rate).

Quality rating (20%): Analysis of quality incidents specific to SS components, the effectiveness of responses to quality problems, the rate of non-conformities and compliance with relevant ISO certifications for special projects.

Technical Evaluation (15%): Assessment of the supplier's technical response to special requests, considering the stability of technical specifications for special solutions, the quality of technical interactions, and innovation in tailor-made solutions.

CSR assessment (15%) Focus on the supplier's social and environmental responsibility, particularly assessing:

- Commitment to a responsible offer.
- Health and safety standards.
- Ethical procurement management.
- Sustainable environmental practices.
- Social policies and the development of human resources adapted to special projects.

c) Key performance indicators (KPIs)

The implementation of targeted KPIs for special solutions suppliers is also an element of progress. These KPIs should cover critical aspects of supplier performance to ensure rigorous monitoring and continuous improvement. The following key areas of assessment could be considered:

- Product and service quality: As mentioned above, the quality offered by suppliers is crucial for Manitou. It is important to assess compliance with technical specifications, the defect rate of delivered products and customer satisfaction. These indicators measure not only the quality of products and services but also their impact on end-customer satisfaction.
- On time and on budget: The ability of suppliers to deliver orders on time and within budget is critical to Manitou's planning and financial management. Tracking on-time and on-budget delivery rates is therefore critical to assessing supplier reliability and operational effectiveness.
- Innovation and collaboration: Innovation is at the heart of Manitou's competitiveness. It is therefore relevant to quantify the number of new products or services developed jointly, as well as continuous improvement initiatives.
- Cost analysis: Rigorous monitoring of purchasing costs is fundamental to ensuring the economic efficiency of special solutions at Manitou. Although the costs associated with special procurements have historically received less attention compared to standard purchases, due to their less significant volume, the impact on the profitability of special projects is beginning to be scrutinised more closely.

This assessment has become necessary as some special deals have proven to be less profitable, highlighting the importance of developing tools for accurate cost management of special components (SS profitability ratio, TCO, purchase cost variance, cost reduction rate).

To improve the process, it would be beneficial to encourage suppliers to submit detailed price quotations, including a costs breakdown. This would give buyers a better understanding of this breakdown and provide concrete elements for negotiation, a practice that is currently uncommon.

2. Implementation of evaluation and monitoring platforms

The creation of an evaluation platform could facilitate communication and the sharing of experience between buyers, particularly those involved in special deals on different sites. The integration of a new module in the ManiTogether system, including evaluation questionnaires and weighting grids, could streamline this process:

- Assessment questionnaires: These collect detailed information on the capabilities, reliability and performance of suppliers, providing a solid foundation for their evaluation.
- Criteria weighting grids: These tools make it easier to prioritise the evaluation criteria, adjusting their importance according to their relevance to the various projects.

This optimisation is a key development strategy for Manitou's special solutions.

A recent example of this rationalisation between PUs was the selection of a stickers supplier for customer Boels, which had stopped supplying the branding required for its SS orders. As Boels is a common customer for several PUs, including Candé, we agreed to choose a common supplier. This decision made it possible to standardise the production of adhesives in Boels' specific colours, reducing the risk of non-compliance and optimising production costs.

C. Risk management and partnerships

1. Identifying and managing risks

Special solutions procurement brings with it unique challenges, including a diverse range of risks. Effective management of these elements is essential to ensure business performance and competitiveness. Here are some recommendations for a risk management strategy:

- Risk identification: Early detection of risks relating to SS suppliers, markets and technological innovations is essential. Structuring this information in the form of a map or table would make it easier to manage.

Appendix 6: General mapping of Manitou's risks

- Risk impact analysis and assessment: Application of specific measures to reduce the impact of identified risks (compliance, quality, deadlines, geopolitical risk) seems necessary. It would then be important to quantify the potential effect of each risk on Manitou's activities, thus anticipating possible repercussions.

Appendix 7: Risk assessment matrix

Special solutions suppliers risk criticality matrix:

Risks	Gra vity	Frequ ency	Criticality (G x F)	Purchasing actions
Product non-compliance	4	2	8	Quality review meetings and pre-production samples for validation.
Late delivery	5	3	15	Clear service level agreements (SLA ²²) (penalty clauses for delays)
Technological failure	3	2	6	Joint innovation workshops, access to the latest technological updates and training.
Financial instability	2	2	4	Financial guarantees, proof of stability, periodic financial audits.
Change in cost of materials	2	4	8	Contracts with price adjustment clauses, group purchases.
Geopolitical conflicts	4	3	12	Contingency plans, diversifying geographical sources of supply.
Environmental risks	3	2	6	Environmental certification required, include sustainability criteria in contracts.

- Proactive risk management :
- **Mitigation strategies:** Implement concrete measures to minimise the impact of identified risks. This may include diversifying sources of supply, establishing safety stocks and implementing business continuity plans.
- **Supplier diversification:** Limiting our dependence on a limited number of suppliers is essential to minimise the risk of supply chain interruption.
- **Continuity plans:** Preparing for any eventuality, including maintaining safety stocks of critical components, ensures that operations can continue in the event of disruption.

- Special attention to non-conformities:

One of the main risks identified relates to non-conformities, which are common both in standard part numbers and, more markedly, in special components.

²² SLA: Service Level Agreement. This is a contract or part of a contract in which a service provider undertakes to respect a certain level of service quality.

Suppliers producing these references occasionally or sometimes for the first time may encounter difficulties. It is therefore essential to take all necessary precautions at the RFI and RFQ request stages, as well as when placing the order, to ensure that specifications such as drawings, dimensions, materials and desired colours are accurately transmitted and verified.

Non-conformities almost systematically cause delays in the production chain and with the end customer, because managing a non-conforming part, from receipt to notification of the supplier, via its return for inspection, then its correction or remanufacture, and finally its reshipment, can be time-consuming.

- Integration of CSR criteria :

To reinforce its commitment to sustainability while minimising operational risks, Manitou must systematically integrate CSR criteria into its risk management strategy and strategic partnerships. This integration can improve risk management, increase supply chain resilience, and enhance its reputation as a socially responsible company for achieving these SS.

This strategy can be implemented using the following tools:

- Assessment and continuous monitoring of CSR risks (non-compliance with labour standards or negative environmental impacts). This assessment must be integrated into Manitou's overall risk management process.
- Enhanced supplier selection criteria: requiring certifications such as ISO 14001 for environmental management or SA8000 for workers' rights.
- CSR audits and certifications to ensure that their practices are in line with Manitou's values.
- Working together on sustainable development projects:
 - Materials recycling project (recovering metals and plastics from end-of-life products and reintroducing them into the production cycle).
 - Co-development of sustainable products (more efficient electric forklift trucks or recyclable composite materials).
 - Initiatives to reduce emissions (the use of electric vehicles or biofuels for logistics and transport).

2. Establishing long-term partnerships

The initiative to forge strategic partnerships with key suppliers is proving crucial to dynamism and innovation, particularly in SS projects. Such enriched collaboration is essential to catalyse innovation and foster mutual development, creating a solid foundation for accelerated integration and responsiveness to market developments.

- Long-term collaboration: Prioritising the establishment of long-term relationships with our suppliers is essential, aiming for a synergy of objectives and visions. This fosters a stronger strategic alignment with Manitou, encouraging our suppliers to become fully immersed in our innovation dynamics. The Manitotogether platform, which is constantly evolving, embodies this commitment to close collaboration, marking the importance of suppliers and Manitou's purchasing teams adhering to this platform.

Long-term agreements (LTAs) with suppliers for standard purchases are a crucial element of this strategy, ensuring stability and continuity in our partnerships.

- Specific contracts for SS purchases: For the most recurrent references in SS projects, establishing specific contracts with suppliers represents a promising avenue. This approach could be applied to simpler product categories, such as sheet metal or adhesives, where the option of working exclusively with one supplier per category and designing a contract based on predefined criteria, such as part weight and production volume, could prove beneficial. This would not only streamline RFQs but also automate the ordering process for new references, knowing the associated costs in advance.

D. Innovation and adaptation to market changes

1. The role of innovation

a) Adoption of advanced and innovative technologies

Adopting an innovation-oriented strategy when selecting suppliers is an effective approach to adjusting to market changes and maintaining a leading position. By drawing on cutting-edge technological innovations, Manitou can refine its supplier selection methods, boosting productivity and competitiveness.

- Predictive technologies: The use of artificial intelligence and machine learning is at the heart of current trends. Although their integration is in its infancy, Manitou needs to remain at the forefront of these developments. These tools can predict supplier performance, assess supply chain risk and identify the most innovative and reliable partners. AI²³, which can process huge volumes of data in real time, provides accurate insights into potential suppliers and their compliance with SS requirements. It could also be used to help us forecast our future needs in special solutions, so that we can better inform our suppliers.

For example, an AI algorithm to analyse the historical performance and potential risks associated with each supplier to optimise the choice of suppliers for hydraulic components, by predicting their reliability and ability to meet the demands of SS.

- In-depth analysis of market data: The importance of analysing market data is becoming essential, especially when it comes to SS component acquisitions, to understand market trends, new products offered by suppliers and technological advances. It plays a key role in the ability to anticipate market changes and select suppliers at the forefront of innovation, responding to specific needs.

Also, the use of analysis tools to monitor variations in the prices of raw materials, such as steel, can lead to more favourable pricing conditions.

- Blockchain for security and transparency:

The adoption of blockchain technology offers a significant strategic advantage in the field of purchasing, particularly for special deals that require particular

²³ AI: artificial intelligence.

attention to detail, quality and the authenticity of transactions that are established without a framework contract. The intrinsic characteristics of blockchain can revolutionise the way suppliers are selected and evaluated, improving the transparency, security and efficiency of purchasing processes.

b. Integration of digital solutions

- Supplier management platforms :

The implementation of digital solutions for collaboration amplifies the efficiency of exchanges between Manitou and its suppliers, making information sharing and cooperation on innovation projects more fluid. This is the ambition of the Manitotogether platform. This constantly evolving platform requires full adoption by our suppliers and purchasing teams, establishing itself not as a constraint but as a privileged channel for rapid information exchange with Manitou's partners. This digital transformation is designed to simplify supplier relationship management, refine sourcing strategies and minimise administrative costs.

The adoption of digital platforms is a key step in the modernisation of Manitou's purchasing processes, enabling the company to take advantage of the latest technologies to energise and clarify exchanges with suppliers. The use of centralised supplier management systems improves information management, performance monitoring and collaboration, ensuring that decisions are informed by up-to-date and reliable data. This centralisation plays an important role in quickly identifying areas for improvement and strengthening partnerships with suppliers.

- E-sourcing solution :

The adoption of e-sourcing solutions simplifies the search, evaluation and selection of suppliers online, making these processes more efficient. These tools offer a global perspective on the market, helping to identify potential partners that meet Manitou's requirements in terms of quality, reliability and cost.

E-sourcing platforms, such as the one recently developed via Manitotogether, speed up RFQs to suppliers, becoming a crucial tool for SS projects that require a lot of them. However, the tool has yet to integrate SS reference drawings to enable direct transmission to suppliers, which is currently done by e-mail. This platform promises to centralise and keep a history of all previous RFQs, providing valuable data for purchasing

special references, identifying which suppliers can deliver the required components and at what price.

c. Importance of innovation in CSR practices

Integrating CSR principles into technological innovations provides Manitou with an avenue to strengthen its sustainability commitments while improving its supplier selection processes. By leveraging green technologies and more eco-efficient production processes, Manitou can not only improve its own operations but also encourage its suppliers to adopt sustainable practices. Here are just a few examples:

- Renewable energy technologies: Investing in technologies that enable the use of renewable energy in production processes, such as solar or wind power. This could include photovoltaic systems on suppliers' buildings or the use of biofuels in transport.
- Automation and AI for energy efficiency: Using automated systems and artificial intelligence to optimise production processes by reducing energy consumption and minimising waste.
- Sustainable materials: Encourage suppliers to use recycled or easily recyclable materials in the production of components, which could reduce the environmental footprint of final products.

2. Adapting to market dynamics and trends

Manitou must remain agile and flexible so that it can adapt quickly to new environmental regulations, technological advances and changing customer expectations.

Here are the elements we need to put in place with our SS suppliers to gain greater flexibility:

- Flexible contractual clauses :

The inclusion of flexible conditions in contracts with suppliers means that we can adapt quickly to unforeseen events and variations in demand, guaranteeing a continuous supply without disruption.

For example, when component requirements necessitate a rapid increase in certain orders already in progress, it is imperative that the supplier can adjust its production schedule. It is also a good idea to consider cancellation clauses for orders for less common or non-recurring products to prevent overstocking in the event of last-minute cancellations by customers. However, these negotiations can be tricky, particularly if Manitou is the supplier's only customer for a given reference.

- Diversifying sources of supply :

By broadening its supplier base for certain critical components, Manitou is reducing its reliance on single sources, reducing the risk of supply chain disruption and increasing its resilience.

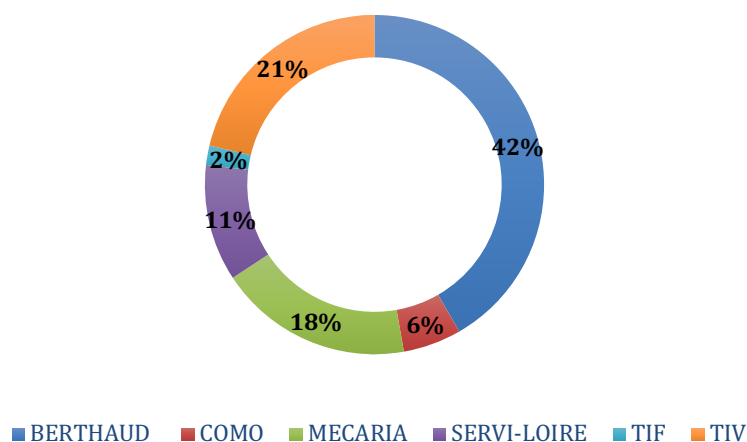
- Partnerships with agile suppliers :

We need to favour partnerships with suppliers capable of adjusting their production quickly to the requirements of Manitou's SS projects to ensure an appropriate and timely response to market demands. The arrival of a new sheet metal supplier in July 2023 illustrates this strategy, responding to a growing need in this area with a more agile, economical and responsive offering.

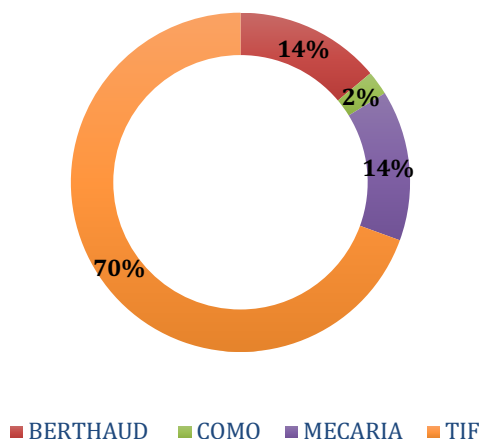
Since July 2023, the supplier La Tôlerie Industrielle du Fresne (TIF) has established itself as our main sheet metal supplier for the Beaupréau SS in 2024. This development is due to its agility, responsiveness and excellent service rate, which are invaluable assets for special solutions. Conversely, the supplier La Tôlerie Industrielle Varadaise (TIV), which was less responsive and frequently late, was removed from our supplier portfolio.

The two graphs below show the breakdown of turnover from special solutions purchases in Beaupréau among our main suppliers:

SS MFT sheet metal purchases 2020 - 2023



SS MFT sheet metal purchases 2024



- Proactive commitment to market intelligence:

Proactive monitoring of emerging technologies and competitive movements informs purchasing decisions, particularly for SS projects, by anticipating trends and adjusting procurement strategies.

- Technology watch and competitive analysis:

- Constant monitoring of technological advances, including innovative materials and new production methods, helps to identify disruptive opportunities.

Google alerts and subscriptions to specialist magazines are effective ways of keeping up to date.

- Examining and analysing competitors' approaches and successes can provide an in-depth understanding of market dynamics, so adopting best practice to maintain a leadership position.

- Analysis of customer needs:

Maintaining a real-time understanding of customer expectations is crucial. This means continually analysing customer feedback and consumer trends, working closely with the design office to effectively integrate these needs into the purchasing strategy. Exploiting the data generated by the machines sold offers immense potential for optimising the user experience by judiciously integrating the desired options and special projects.

- Participation in industry events:

Regular attendance at trade shows and conferences provides buyers with valuable insights into developments in the sector, enriching their approach to supplier selection and opening the door to a wider range of potential partners to meet our needs.

Examples include:

- **Global Industrie show** (Paris): A major showcase for industrial innovation.
- **SEPEM Industries Sud Ouest** (Toulouse): To discover technological advances and business opportunities.
- **Bâtimat, Interclima, and Ideobain** (Paris): Focused on building, construction, and energy efficiency.
- **Eurosatory** (Paris): The largest international defense and security exhibition, highlighting the latest technological advancements in defense and security sectors.

Conclusion

This thesis explored the complexity and strategic importance of supplier selection and evaluation in the context of special business at Manitou. The study highlighted key findings that play a critical role in strengthening the company's competitiveness and operational efficiency.

By focusing on supplier flexibility, innovation, and responsiveness, Manitou is better prepared to meet fluctuating and specific market demands while maintaining the quality and conformity of finished products. Implementing multi-criteria rating systems and weighted evaluation grids refines the supplier selection process, ensuring that suppliers meet technical, economic, environmental, and social standards.

Close collaboration with suppliers to co-develop innovative, bespoke solutions fosters a continuous flow of ideas and best practices that fuel long-term competitiveness. This commitment to continuous improvement is crucial for maintaining market leadership and adapting to future challenges.

Proactive risk management is essential to anticipate and mitigate potential challenges, ensuring supply chain stability and resilience. Analytical tools and assessment platforms, such as ManiTogether, provide greater visibility and control over supplier interactions.

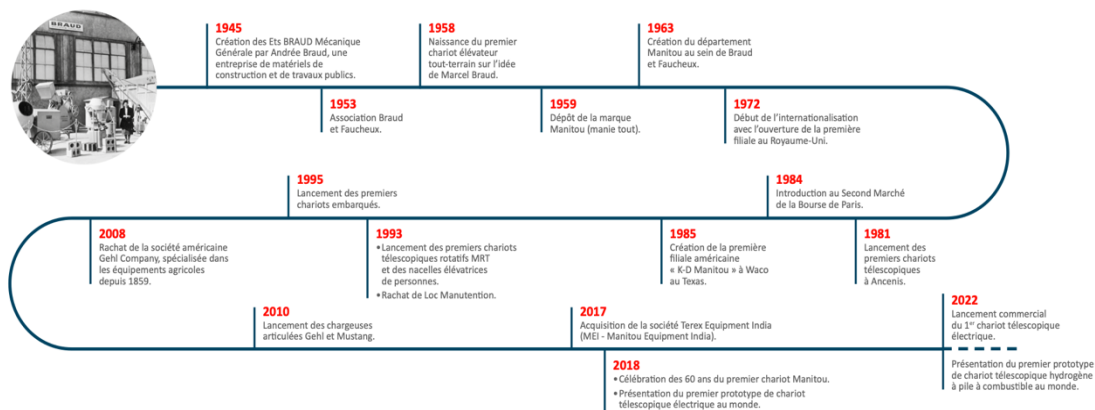
Reaffirming the importance of CSR is crucial not only for compliance and risk management but also for brand positioning and long-term competitiveness. Ongoing commitment to CSR enhances the company's reputation, attracts investors and environmentally conscious customers, and encourages more sustainable innovation. Manitou must continue its efforts to systematically integrate sustainability criteria into its procurement processes, particularly for special solutions, where bespoke requests and complex technical requirements pose additional challenges.

Exploring the integration of advanced technologies, such as artificial intelligence, can further refine supplier selection and management processes. Additionally, analyzing the impact of sustainability and social responsibility practices on supplier selection criteria could offer new insights into how ethical standards influence business decisions.

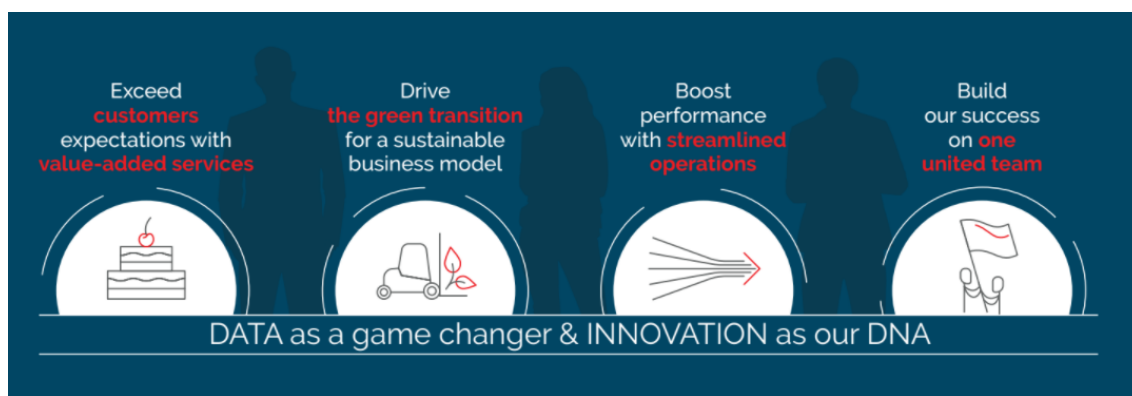
Appendix

Appendix 1: History of Manitou Group

HISTORIQUE DU GROUPE



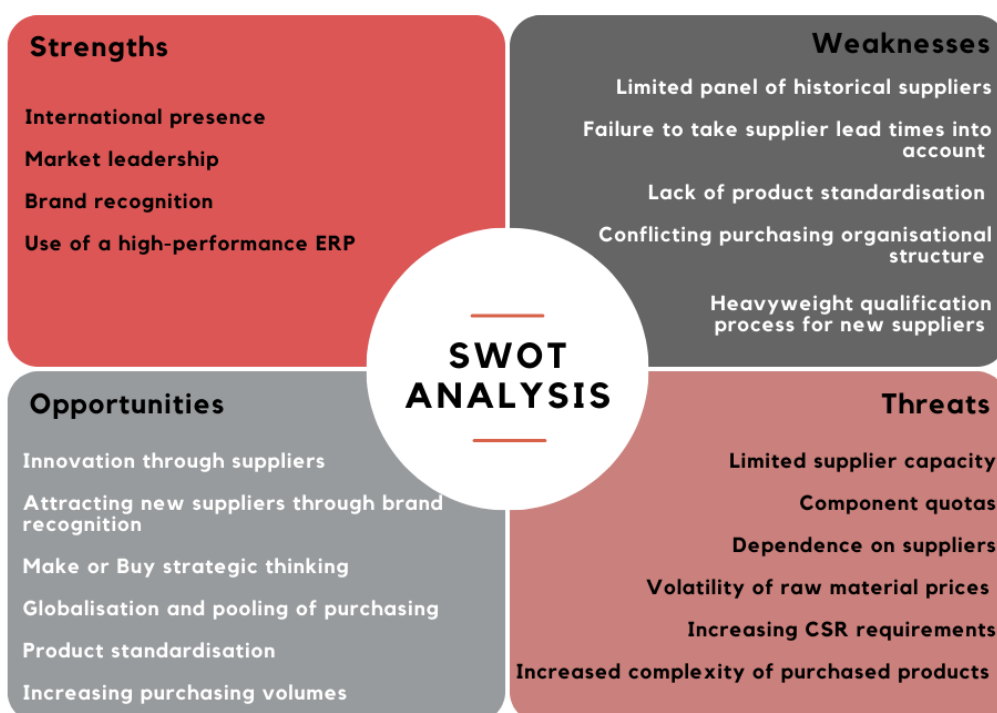
Appendix 2: The New Horizon 2025 strategy.



Appendix 3: PESTEL of purchasing at Manitou



Appendix 4: SWOT analysis of purchasing at Manitou



Appendix 5: All supplier risks

Financial failure	Compliance	CSR	Dependency	Country	Industrial	Supplier Development Capacity
Supplier financial health monitoring to detect risk of insolvency Owner: SEP team Source: Procurement Catalyst	Supplier due diligence analysis to identify breach of compliance Owner: SEP team + ARC Source: Due diligence	CSR practices analysis to identify gaps to Manitou's expectations Owner: SEP team Source: Ecovadis	Monitoring of supplier's dependency towards Manitou Owner: SEP team Source: Procurement Catalyst	Monitoring of country risks Owner: SEP team Source: Various	Exposure to supplier production interruption Owner: Buyer's Source: Suppliers' BOP	Supplier ability to follow delivery plan Owner: SDL team Source: Capacity survey

Appendix 6: General mapping of Manitou's risks



Appendix 7 : Risk assessment matrix

PROBABILITÉ D'OCCURRENCE	Très élevée	2 Risque de change	1 Santé & sécurité des collaborateurs 1 Gestion des compétences	3 Cyberattaque 4 Changement climatique 5 Outil industriel	5 Achats & approvisionnements
	Élevée		1 Recrutement & maintien de l'effectif	6 Prix de vente 4 Éthique des affaires	4 Corruption, pratiques anticoncurrentielle & contrôle des exportations 6 Adaptation à l'évolution des marchés
	Possible		5 Conditions générales contractuelles		
	Rare				4 Géopolitique
		IMPACT			
		1 - Faible	2 - Moyen	3 - Significatif	4 - Majeur

Appendix 8 : Fiche suivi du mémoire

ANNEXE I – FICHE SUIVI DU MÉMOIRE (1^{ère} étape)

Nom : Chaillou Prénom : Marius Section : MDA 1
Téléphone : 07 67 85 22 53 e-mail : mariuschaillou@gmail.com

Thème du mémoire (brève explication en 5 lignes maximum)

Le mémoire explore l'optimisation des processus d'achat chez Manitou dans le contexte des affaires spéciales. Il se concentre sur la sélection et l'évaluation des fournisseurs pour les pièces hors série / non standard, en répondant à des demandes spécifiques.

Mots Clés (5 maximum)

Affaires spéciales, Identification, Sélection des fournisseurs, Evaluation, Achats spéciaux

Sujet du mémoire L'évaluation et la sélection des fournisseurs pour les affaires spéciales chez Manitou.

Titre du mémoire Stratégies d'Achat pour les Affaires Spéciales : Évaluation et Sélection des Fournisseurs chez Manitou.

Langue de rédaction Anglais

Formulation de la problématique Comment Manitou peut-il efficacement évaluer et sélectionner des fournisseurs pour répondre aux besoins des affaires spéciales ?

Validation par la commission pédagogique :

Date de remise du document : 22/01/2024

Visa du candidat :

Visa de l'entreprise d'accueil

Décision de la commission :

- ☒ **SUJET ET PROBLEMATIQUE VALIDES**
☐ **SUJET ET PROBLEMATIQUE A REFORMULER**
☐ **SUJET ET PROBLEMATIQUE REFUSES**

Préconisations de la commission :

Visa du responsable du suivi :

Appendix 9 : Attestation de réception du mémoire



Objet : Attestation de réception du mémoire avant le dépôt officiel à l'école MBway Angers, en vue de l'épreuve orale

Je soussigné(e) [NOM Prénom] HAYE Christophe
exerçant la fonction de Responsable Achats
au sein de l'entreprise MANITOU BF
certifie avoir reçu, en ma qualité de tuteur, avant le 1^{er} juin 2024, le mémoire
de [NOM Prénom de l'élève] CHAILLOU Marius

Faisant valoir ce que de droit,

[Ville ; date] Beaupréau ; le 04/05/24

Signature et tampon entreprise

MANITOU - B.F.
59, rue de la Cité
49600 BEAUPRÉAU
Tél. 02 41 56 46 05
Fax 02 41 56 46 05
R.C. 851 802 888 0070
Code NAF 1 88E E 104

ENSEIGNEMENT SUPÉRIEUR PRIVÉ
TITRES CERTIFIÉS PAR L'ÉTAT

Appendix 10 : Engagement de Confidentialité



Engagement de Confidentialité

Je soussignée Justine MOREL, agissant en qualité de Directrice MBWAY Angers certifie que :

- Les éléments relatifs à l'entreprise présentés dans le cadre des écrits réalisés en vue d'une évaluation et parfois, d'une présentation orale devant un jury, font l'objet d'une utilisation strictement pédagogique qui se limite à une évaluation écrite et orale du travail réalisé.
- L'ensemble des membres du jury susceptible d'avoir accès à des informations concernant l'entreprise support des dossiers présentés sont soumis à une obligation stricte de confidentialité.
- Aucune reproduction ou diffusion des éléments contenus dans les dossiers ne sera réalisée en dehors des nécessités pédagogiques (utilisation des documents pendant le déroulement du jury).

Fait à Angers le lundi 4 mars,

Justine MOREL
Directrice MBWAY

ENSEIGNEMENT SUPÉRIEUR PRIVÉ
TITRES CERTIFIÉS PAR L'ÉTAT

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