



Success stories

## TWO WATER LINES FOR ARMENIA

# High-tech in the mountains

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A&M Rare's new, ultramodern bottling plant seems almost surreal in its Armenian mountain setting. This is a place where the emphasis is on unspoiled scenery and naturalness also with regard to both the company's exclusive products and the production of the same.

RETURNABLE GLASS

NON-RETURNABLE GLASS

NON-RETURNABLE PET

RETURNABLE PET

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## PHOTOGRAPHY / ILLUSTRATION

A&M RARE LLC, Frank Reinhold

## COVER PHOTO

In the Pambak Mountains northeast of Yerevan, the source of Rare's mineral water, the highest peaks rise up to over 3,100 meters above sea level.

Sheikh Mohammed Mussallam has run a good number of companies in many different fields in his time – among them the construction and telecommunications industries and hotel sector. In his early fifties he found he was keen to try something new. When he visited friends in Armenia ten years ago, they greatly enthused about the quality and purity of Armenia's water – and for the first time the sheikh learned of the many legends and myths that surround this essential element here. It gave him an idea.

## **Premium product from the Armenian mountains**

Back in the 1980s he'd managed a family-run operation for bottled drinking water. He thus began developing the ambitious notion of returning to this field of business, this time with a premium product that has him so convinced that he'd love to market it the world over: Armenian natural mineral and spring water. In 2012 Mussallam contacted the Armenian government who introduced him to a number of extremely cooperative individuals in the ministries of the environment and mining. Together with a Swiss geotechnical company he began looking for the ideal location for his undertaking – which he subsequently found in Artavaz in the Kotayk Region in the Pambak mountain range about 80 kilometers from the capital of Yerevan. Here 25 kilometers from one of the largest and most popular Armenian ski resorts in Tsaghkadzor, where the mountains of the Lesser Caucasus reach heights of over 2,800 meters above sea level, two springs can be found in the midst of totally unspoiled surroundings. Rare mineral water bubbles from Anapak Mountain (2,050 meters above sea level). It contains bicarbonate, is rich in calcium, low in sodium and a gentle digestive stimulant. Its high mineral content makes it especially suitable for the preparation of baby food.

The source of the spring water is just five kilometers away at an altitude of 2,450 meters and comes from Anknaler Mountain; it produces spring water with a low to medium mineral content, making it extremely well-balanced. Following extensive research and analysis, the high quality of Rare water has been certified over the last five years by several accredited organizations.

These include GEOTEST in Switzerland, SGS Institut Fresenius in Germany, Zenith Global in the United Kingdom and the National Academy of Sciences of the Republic of Armenia. The natural purity, high quality and specific composition of the water are constantly monitored. The acquisition and successive dedication of the terrain as a nature conservation area were necessary to protect the spring from any impact from the outside world – and a real marathon when it came to negotiations. From the initial idea to the ultimate launch of his company A&M Rare, it took Mussallam five years to purchase the full 1,700 hectares of land from the various owners of this sparsely populated stretch of Armenia.



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The heart of the line for still water is the InnoPET BloFill stretch blow molder/filler block with its Innofill PET DRV filler that processes up to 12,000 bottles per hour.

A short film on A&M Rare shows KHS' water line in action in the amernian mountains.

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## No compromise on purity

Mussallam is not a man to compromise, however: for him the absolute purity and unadulterated quality of his water have top priority. “Our products are completely natural and not treated in any way whatsoever. I always say, with a twinkle in my eye, that the only ‘machinery’ we need to transport the water from the mountain to our plant is gravity.” He’s particularly enamored of the pure natural landscape that effuses a paradisiacal charm at all times of the year.

He also loves the culture of the country, whose people he finds especially open, cooperative and hospitable. This also applies to the political and regulatory conditions for investors. Only the local banks prove something of a challenge, he claims: he values them as good partners but finds them rather conservative when it comes to granting loans.

As his partner for certification, approval and basic technical concerns Mussallam chose SGS-TÜV Saar\* who advises and supports him on all issues of system, building and machine safety and also product safety. It was on recommendation of this company that Mussallam eventually came into contact with the Dortmund systems supplier KHS. “It was important to me that we also adhere to the highest possible standards when it comes to production and filling,” he explains. “For me, this includes the provision of high-tech equipment in the form of lines and machines on the one hand and the availability of after-sales service in this rather remote part of the world on the other. What particularly won me over to KHS was that I can procure practically everything from a single source and that we can have a KHS engineer on site at any time within just 48 hours.”

The Saudi businessman also finds it important that the chemistry’s right: in the meantime, he’s formed quite a friendship with Oliver Schneider, deputy head of Sales at KHS in Bad Kreuznach, with both men on first-name terms. Schneider emphasizes, “Even if Mohammed’s relatively new to the business, he knows exactly what he wants and what he’s doing. He’s virtually bursting with ideas which we’ve been able to help

him realize with great interest and commitment right from the start. He really appreciates this and this helped us to quickly form a really trusting relationship.”



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Premium products stylishly packaged: bar the color of the cap, A&M Rare’s carbonated mineral water bottled in glass and still water bottled in PET are almost identical in appearance.

**FACT CHECK** —→ **A&M RARE LLC**

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**WHEN?** Founded in 2014 in the Armenian capital of Yerevan; production started in Artavaz in 2020.

*A&M Rare employs around 300 people, with about 100 in production in Artavaz and a further 200 in marketing, administration and controlling in Yerevan.*

**IN WHAT?**  
*Non-returnable glass and PET bottles holding*  
→ 330,  
→ 500 and  
→ 800 milliliters.

**WHERE TO?**  
Armenia, Russia, Europe, USA, United Arab Emirates, Kuwait and Saudi Arabia.

**WHAT?** —  
*Still spring water and carbonated mineral water.*

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**HOW MUCH?** UP TO 240,000 BOTTLES PER DAY.

[www.rare-water.com](http://www.rare-water.com)

## State-of-the-art standards

The experts from KHS have been involved in many parts of the project from the planning of the building and its infrastructure through the technical concept to the design of the bottles, labels and packaging. The construction of the bottling plant alone posed quite a challenge in Armenia with its high risk of earthquakes. The outer walls are made of solid concrete, the roof of composite panels. In view of the extreme fluctuations in temperature, often icy in the mountains, great attention was also paid to the thermal insulation. It gets down to -25°C here in the winter, with two meters or more of snow not uncommon. When this is the case, the access and surrounding roads have to be kept clear so that the water can be delivered.

“A&M Rare is one of the most modern factories I’ve ever seen,” exclaims Schneider. “Mussallam has invested a total of €22 million here, with around €6.8 million going into the technology alone. All of the materials and systems are of the best quality.” KHS has installed two lines: a non-returnable PET line and a glass line, each with capacities of up to 12,000 bottles per hour. Both can fill the company’s still spring and carbonated mineral water.

While the PET line has a stretch blow molder/filler block, the glass bottling system has a block comprising a rinser and filler. “In order to meet the high demand for product quality, both blocks and the capper are housed in their own clean rooms,” Schneider explains. “The filling section is consciously separated from the packaging and palletizing section that’s located in the warehouse area behind a partition wall. Both lines are equipped with a KHS Innoket Neo SK labeler that dresses the bottles with self-adhesive, transparent labels in a no-label look. Each packaging area also has a KHS Innopack Kisters WP wrap-around packer. What’s more, an additional partition inserter has been integrated into the glass line which inserts cardboard partitions to prevent the glass bottles from knocking against one another,” Schneider specifies. “In a country like Armenia logistics is rated differently than in Western Europe, especially if we look at the condition of the roads,” he continues. Unlike the

usual practice in this capacity range, where palletizing is often done by hand, both lines include a fully-automatic KHS Innopal PBL-1 palletizer.



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A&M Rare's carbonated water is bottled by a KHS Innofill Glass Micro DPG filler.



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On the Innopack Kisters WP the bottles are packaged in high-quality wrap-around cartons in keeping with the brand's premium image.

## Automation in focus

“Alongside flexibility Mohammed attached enormous value to having a high level of automation. This was undoubtedly one of the criteria that tipped the balance in favor of KHS,” smiles Schneider. Accordingly, the factory layout is also very efficient: the glass and PET lines are placed opposite one another almost as mirror images in what’s known as a comb arrangement. “It was important to us that we’d be able to operate the lines with as few people as possible,” Mussallam stresses. “That’s why we also don’t refer to our engineers as operators but as monitors who watch over the line, if you will.”

Mussallam also has very exact ideas and expectations regarding the packaging for his premium product in particular. He’s opted for a minimalist cylindrical bottle shape with a flat base that’s sealed with a decorative cap as wide as the bottle – blue for still spring water and gold for mineral water. This was relatively simple to implement for the glass bottles; however, designing a PET bottle to these specifications presented KHS’ Bottles & Shapes™ experts with something of a challenge. “My initial wish for the brand was that the PET bottles for still water and the

glass bottles for carbonated water should look identical,” Mussallam remembers. “I of course realize that a PET container primarily designed for stability would actually look quite dreadful,” he laughs. “It’s all the more of an achievement, then, that the experts at KHS have managed to design a stable cylindrical bottle that meets all of my requirements. On no account did I want to have to accept a rounded bottle base like the one you find on a sparkling wine bottle. This called for a lot of clever engineering – and patience – from the colleagues at KHS.” Each and every detail of the PET and glass bottles was conceived to reflect the brand’s premium position while ensuring the highest possible food safety.

As opposed to the competition, bottles of A&M Rare water are not held together with shrink film but packed in groups of twelve in attractively designed cartons that are then stacked on pallets. This excellently prepares them for what’s often a long journey. For with a population of less than three million, a certain amount of competition and a high percentage of imported water in Armenia, Mussallam reckons on only selling about 10% of his output on the home market. He exports the rest to Russia, for example, to Europe – to this end he’s had his water certified according to EU standards – and to the USA, the United Arab Emirates, Kuwait– and of course to his native Saudi Arabia.





Scheich Mohammed Mussallam  
Owner and CEO, A&M Rare LLC

»With KHS I can procure practically everything from a single source and have a KHS engineer on site at any time within just 48 hours.«

More information on our InnoPET BloFill stretch blow molder/filler block and videos with specific example applications are to be found on [khs.com](https://www.khs.com).

[KHS.COM](https://www.khs.com)

## Challenging start

The geographical conditions alone meant that delivery of the new equipment was a somewhat demanding exercise, Oliver Schneider remembers. “Transport routes in the mountains are by nature rather restricted,” he says. “Our machines weigh several metric tons, meaning it’s not so easy to move them up to an altitude of over 2,000 meters, especially in wintery conditions.” Communication also required a certain amount of flexibility. “If you want to bring people from Saudi Arabia, Armenia

and Germany and an installation team from Ukraine, Kazakhstan and Russia together, you sometimes need two interpreters so that two people can understand one another,” Mussallam grins.

Installation nevertheless went smoothly; commissioning was a totally different matter, however, hampered by the corona crisis and the limited freedom of movement for the 15-strong KHS team. “As soon as the first restrictions were lifted, KHS was back on site,” reports Mussallam. “Of course we then always had to adhere to strict rules of hygiene and present countless documents at the airport, for instance. We stationed the colleagues from KHS up in the mountains and strictly controlled access to the plant. It all worked very well; we were able to limit the delay to just four months. We used this time to forge ahead with our marketing campaign and stock up on raw materials so that we’re now in a position to produce four million bottles virtually off the cuff. The infrastructure in the area was also further improved by us turning our attention to the roads and electricity lines.”

The time both lost and gained through corona was also used to qualify the company’s workers and managers. “We chose the best candidates from the universities. We didn’t attach too great an importance to experience because we can fully rely on the quality of the training. The professionals from KHS teach our colleagues the necessary skills to make them the best in their field,” smiles Mussallam happily.

The 63-year-old can now hardly wait for his two lines to be running at full capacity in the near future so that he can start devoting his time to his next project: he’s already dreaming of a second bottling plant with a big returnable glass line so that he can convince even more consumers of the legendary benefits of water from Armenia.

# Any further questions?

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