

## SPACE RESEARCH

# Saudi astronauts land safely on Earth after successful mission

### Many proud citizens watched live 12-hour return journey

Dhahi Al-Mutairi Riyadh

Saudi astronauts Rayyanah Barnawi and Ali Alqarni, and Americans Peggy Whitson and John Schoffner, made a safe splashdown off the coast of Florida early Wednesday morning, after completing a successful eight-day Ax-2 mission on the International Space Station.

The 12-hour journey of the Dragon capsule back to Earth from the ISS was watched live by many Saudi citizens, who expressed pride at the contribution of the two Saudi astronauts to space research.

"I was more nervous watching their return to Earth as I learned it is often difficult for a returning spacecraft to reenter Earth's atmosphere," said 15-year-old Reema, a high school student based in Dhahran. "I stayed up all night to watch the live coverage of their arrival, and it was worth it, I felt proud to be Saudi."

"I feel privileged to be living in a country aiming to empower its citizens with continued support from initiatives, workshops, scholarships, working day and night to mark Saudis' footsteps in all fields," said 34-year-old engineer Yasser, a chemical engineer based in Jubail Industrial City.

Princess Reema bint Bandar, the



Saudi astronaut Rayyanah Barnawi uses the live science gloves box to conduct experiments on human immune cells and their inflammatory response in microgravity. Supplied

Kingdom's ambassador to the US, tweeted: "Filled with pride as I watch our astronauts and the Ax-2 team land safely back to Earth after their journey to ISS where they conducted scientific experiments

## HIGHLIGHT

As part of the Kingdom's continued contribution toward space science, the Ministry of Education has approved the teaching of the book 'Earth and Space Science' as part of the school curriculum starting from the next academic year.

that will further the frontier of scientific innovation and inspired a whole nation to dream and explore."

### Experiments in space

Barnawi and Alqarni successfully completed 14 science experiments

in space. Three were part of the education outreach microgravity experiments, which involved over 12,000 students from 47 locations across the Kingdom.

"The education outreach experiments aim to encourage their curiosity in space science as they are the future Saudi scientists, astronauts and engineers," said Mishaal Alshemimry, a Saudi aerospace engineer and special adviser to the CEO of the Saudi Space Commission, in an interview with Al-Ekhbariya.

Among all the experiments conducted, 11 focused on the nervous system involving tissues, cells and molecules; four on immune cells; and one on cloud seeding in space, involving water-seeding technology. Several of the experiments were designed by Saudi scientists who had their projects taken into space by Barnawi and Alqarni.

## Saudi space mission promotes science diplomacy

DR. NAJAT ALSAIED



During the 32nd Arab League Summit, Crown Prince Mohammed bin Salman made a significant statement emphasizing the commitment to peace: "We assure friendly countries in the East and the West that we are moving forward in peace. We will not allow our region to turn into a zone of conflict."

This declaration did not emerge unexpectedly but rather stemmed from a profound understanding of the significance of peace in fostering fruitful collaboration and progress. The region's painful experiences with past conflicts have resulted in missed opportunities for development and innovation, depriving the nation of valuable advancements that could have propelled it forward.

Due to these conflicts, many countries in the region, including the Kingdom, missed many opportunities, which also encompasses the Kingdom's interest in space, which dates back to 1977. Prince Sultan bin Salman was the first Arab Muslim astronaut, but because of the conflicts that the region witnessed during the 80s, space research was not given much attention, and this is what Crown Prince Mohammed bin Salman has realized. He has stressed the need for direct investment in scientific research as part of Vision 2030.

The Vision 2030 plan aims to enhance the knowledge and technical expertise of Saudi individuals. This endeavor will not only contribute to a stronger economy and the growth of industries, but it will also involve investing in the region's youth. This strategic approach embodies an ideal method to cultivate a new mindset based on scientific advancement and technological innovation, effectively countering radical ideologies and extremism. Consequently, it will foster stronger bonds among the people of the region, encouraging discussions grounded in science and rationality, irrespective of religious, racial or historical differences.

Furthermore, the transformation will be facilitated through the concept of science

diplomacy, ensuring that science remains independent of political influences.

The significance of this has been exemplified by the Saudi astronauts Rayyanah Barnawi and Ali Alqarni, as they successfully ended their eight days of scientific research aboard the International Space Station. This Saudi space mission, widely recognized by observers, not only contributes to the advancement of scientific knowledge but also serves to inspire the younger generation's aspirations in science and technology. Additionally, it promotes women's empowerment in scientific fields and strengthens the foundations of science diplomacy, garnering

increased support for scientific endeavors.

Its overarching objective is to address both national and global challenges. Science diplomacy can be categorized into two distinct forms: diplomacy for science, which promotes international scientific collaboration, and science for diplomacy, wherein scientific cooperation contributes to the improvement of international relations. This diplomatic approach offers a significant advantage by transcending political obstacles, as well as

The space mission undertaken by Saudi Arabia marks a momentous achievement in the nation's quest for scientific progress, women's empowerment, and the promotion of science diplomacy.

cultural and religious differences, making it a vital bridge between nations.

The significance of diplomacy in the realm of science is clearly evident in this scenario, where three Arab astronauts came together in space for the very first time. Emirati astronaut Sultan Al-Neyadi warmly welcomed Saudi astronauts Barnawi and Alqarni aboard the ISS. Adding to this remarkable display of unity, American commander Peggy Whitson and pilot John Schoffner joined forces with Barnawi and Alqarni. This serves as a striking testament to the power of collaboration and cooperation transcending borders and nationalities.

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# Mission accomplished: What Saudi astronauts have achieved for the Kingdom

FAISAL J. ABBAS | EDITOR-IN-CHIEF

As we bask in the brilliance of Saudi Arabia's recently concluded achievement in space science, a familiar chorus of social media cynics has attempted to belittle our momentous stride by insinuating that it was merely the result of our country's economic clout. They suggest that the feat of sending two Saudi astronauts, Rayyanah Barnawi and Ali Alqarni, to the International Space Station was simply purchased rather than earned. Such narratives not only negate the hard work, innovation and pioneering spirit of our nation, but they also neglect to recognize the multifaceted ways in which our resources are used for collective progress and humanitarian causes.

Indeed, Saudi Arabia's financial muscle is an undeniable reality. Still, the key question to be asked is not about our capacity to spend, but how and where we choose to direct these resources. A country being wealthy is not always an indication of its success. There are many examples of countries in the region that, despite being incredibly wealthy, suffer from anarchy, instability and a lack of basic amenities. Saudi Arabia's answers are evidently positive, with the Kingdom utilizing its wealth for myriad transformative initiatives, both domestically and globally.

For starters, let us look at the commendable humanitarian efforts led by Saudi Arabia. Most recently, we spearheaded the evacuation of

civilians caught up in the unrest in Sudan, saving countless innocent lives. Our largesse extends beyond immediate crises, too. We remain one of the most generous donors in global aid, continually supporting the poorest nations to help elevate their living standards and fostering sustainable development through programs such as KRelief and the Saudi Fund for Development.

Moreover, our economic interventions have saved numerous economies teetering on the brink of collapse. These actions reveal a commitment to global stability that transcends mere financial calculations and underscores our dedication to mutual progress and shared prosperity.

Closer to home, the Kingdom's ambitious "giga-projects," from NEOM to Diriyah to the Red Sea Project, as well as both the Saudi and Middle East Green Initiatives, are radical illustrations of our commitment to economic diversification and sustainability. These ventures promise to revolutionize not only our local economy but also to contribute to global innovation and ecological balance.

Our critics conveniently overlook these aspects, while choosing to focus on our spending in space exploration. However, investing in science and discovery is hardly a folly to be frowned upon; rather, it is an endeavor to be commended. Our strides in space science mirror our broader aspiration to lead in technological innovation, contribute to humanity's shared



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understanding of the universe and inspire future generations.

The cynics question the rationale behind our space ventures, arguing that they are mere displays of wealth. However, they miss the point that space exploration is as much about human progress as it is about national achievement. It encourages scientific curiosity, fosters technological innovation and bolsters global cooperation — elements crucial to addressing the pressing challenges of our times, from climate change to resource scarcity.

It is instructive to review the experience of other nations that have invested significantly in space exploration. In doing so, we can discern a clear pattern of broad-based returns that extend far beyond the monetary.

Take, for instance, the US, whose National Aeronautics and Space Administration has been at the forefront of space exploration for decades. The investment in the Apollo moon missions, while initially deemed expensive, has reaped substantial rewards. The technological innovations stemming from these endeavors, such as solar panels, CAT scans and even freeze-dried food, have found their way into everyday life, benefiting humanity as a whole. This is the tangible, material return on investment that space exploration has yielded.

But the impact extends beyond financial metrics and physical products. The launch of Sputnik by the Soviet Union and subsequent

space race galvanized interest in science education across the US, leading to an unprecedented growth in interest in STEM — science, technology, engineering and math — fields. This surge helped fuel technological innovation and economic growth for decades to come.

Moreover, the inspirational effect of space exploration should not be underestimated. The image of the first human setting foot on the moon, the awe-inspiring pictures of distant galaxies and nebulae from the Hubble Space Telescope, the audacious feats of the Mars rovers — all these have sparked the imaginations of countless young people, inspiring them to pursue careers in science and contributing to a culture of innovation and exploration.

In Saudi Arabia, we are already witnessing a similar groundswell of interest. Our investment in space exploration is fostering a newfound interest in STEM subjects among our youth, while our astronauts serve as role models, inspiring our young people to dream big and reach for the stars.

The two Saudi astronauts' journey to the space station symbolizes more than an exciting milestone for our country; it is an embodiment of our broader objectives. It stands testament to the fact that Saudi Arabia is using its resources to not just better itself, but also to contribute positively to the world at large. Rather than belittling this achievement, it should be applauded.