



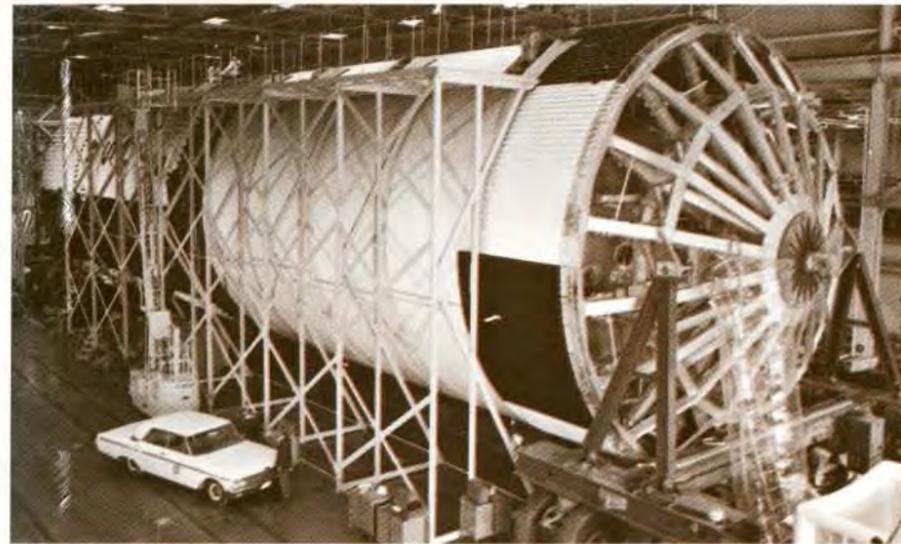
Major office buildings at Marshall Space Flight Center.



Impressive Army-Redstone Arsenal missiles.



Center City—Huntsville, Alabama.



Saturn V S-IC-T rocket stage being readied for static firing.

Huntsville—

SPACE CITY, U.S.A.

By Patricia Dolan



Army Missile Munitions Center and School at Redstone Arsenal.

A city carved out of the heartland of America and set down on the threshold of space. Huntsville, Alabama has emerged from a sleepy Southern town to a modern, pulsating, progressive city. The area is well aware of its role in man's greatest adventure—reaching the moon and planets.

Probably the fastest growing city in the world, Huntsville, Alabama was virtually unknown by most Americans some 20 years ago. But today, Huntsville is well recognized as the home of much of the nation's missile and rocket program.

Here, the Jupiter c, the missile that launched our first satellite, was developed. The Redstone, which carried our first astronaut into space, was developed here. The mighty Saturn, destined to carry men to the moon, is the latest and most formidable Huntsville happening.

Huntsville embodies the spirit and the fact of America's determination

to reach the moon and the planets. There's a kind of excitement in the air, in the quiet, tree-lined streets, in the modern buildings, in the historical parks, in the new airport, in the people. The city is caught up in the great excitement and adventure that is the space age.

Huntsville is known by many names—"Rocket City," "Space Capital of the Universe," "Space City." Its growth has paralleled the growth of missile and rocketry.

At the mid-century mark, there were 15,000 residents in Huntsville; today that population has jumped to 150,000. And estimates by fore-

casters—who live in a town where seeing into the future is a way of life—predict more than 285,000 Huntsvillians by 1985.

When first planned, Huntsville contained just 60 acres of land. By 1950, the town covered only four square miles. Today, the city encompasses about 112 square miles.

What transformed this small, almost rural community to its present-day progressiveness? The space age. And two magnets that brought a great influx of people to the area to help transform the town to "Rocket City" are undoubtedly the Army's Redstone Arsenal and NASA's George

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C. Marshall Space Flight Center.

These government installations account for some 25,000 people. These employees—engineers, scientists, technicians and a host of others—brought their families and settled in the northern Alabama community, bringing with them a new chapter to be written in Huntsville history.

Huntsville's roots go deep. It is the second oldest city within the boundaries of the territory that is now Alabama. The state's Constitution was drafted there. It served briefly as the first state capital. The first governor of Alabama, William Wyatt Bibb, was inaugurated there.

At the end of the 18th century, there wasn't even a town. There were mountains, lakes, towering trees, and good ground. In 1805, John Hunt, for whom the town is named, built his home near the "Big Spring," the center of today's Huntsville.

Among the first buildings on the first 60 acres were the courthouse and the jail. In a few years, the town grew enough for the establishment of a newspaper. Several stores were built around the public square. Soon after, a school, bank, library and the first organized Presbyterian Church in the state followed.

Because of the fertile ground, Huntsville grew prosperous as a commercial center of a rich agricultural area. It also drew some of its wealth from the manufacture of cotton

goods, flour, shoes, lumber, copper stills, pumps and various other products of the early years.

Huntsville was never really a part of the deep South—in spirit or in fact. Its fiercely independent people had much more in common with the mountain folk of Tennessee than with the southern Alabama planters. But when King Cotton entered the picture, Huntsville became one of the busiest cotton trading centers in the South. The area continued to be Alabama's leading cotton producer through the 1950s.

Gone now are the days when the local economy depends upon cotton. Although farming and textile production remain important, the new economic king is missile and space technology.

Redstone Arsenal is the home of the U.S. Army Missile Command, the Army Missile and Munitions Center and School, the Sentinel Systems Command, NASA's George C. Marshall Space Flight Center and a number of private contractor firms.

Within easy distance of the center of Huntsville, Redstone is actually a city within a city. Its 38,881 acres include three minor mountain ranges. There are more than 80 miles of railroad, more than 330 miles of roads, and its people utilize 2,000 buildings. There is an airstrip and a hangar for planes and also modern dock facilities on the Tennessee River

—the post's southern boundary.

The Army Missile Command, headquartered at the Arsenal, directs world-wide Army missile activities. It is a major commodity command of the Army Materiel Command; and has across-the-board responsibility for all phases of the Army's missiles and rockets program.

The American soldier is dependent on the rich experience and know-how of Redstone scientists, technicians, engineers, secretaries and shopmen to bring a missile system successfully to life. Based at Rocket City, these people work in partnership with defense contractors across the nation to form a true Army-industry team.

Redstone wasn't always so active. Established in 1941, it is a combination of two Army arsenals—one established by the Chemical Warfare Service and the other by the Ordnance Corps. During World War II, of course, there was a heavy concentration of people and a great deal of activity at Redstone. After the war ended, employment curtailed.

Later, when the Army decided to expand its rocket and guided missile activities, suitable land and facilities were needed. Redstone was a logical site. The Arsenal was designated as the center of research and development activities in the field of rockets and related items and was declared an active installation by the Department of the Army in June 1949.



A ground test Saturn V booster rolls out of the cargo hangar of the new NASA barge "Poseidon."

Less than a year later, the Army's rocket experts moved to Huntsville from Fort Bliss, Texas. The team of scientists and engineers was headed by the brilliant German scientist, Dr. Wernher von Braun. Under his tutelage, Redstone soon became the nerve center for the Army's rocket and guided missile program.

More facilities and more people traveled to Huntsville—and stayed. Ordnance elements moved in from the Aberdeen Proving Ground. The Ordnance Guided Missile School, the third largest educational institution in Alabama, settled. There, a faculty and staff of 2,000 military and civilian personnel are skillfully coordinated to make the maximum use of approximately 100 buildings jammed with \$70 million worth of electronic and other technical equipment and teaching aids.

Many Huntsville scientists and engineers work behind closed doors at Redstone—under tight security wraps. The Missile Command's civilian and military personnel at the eight major research and development labs are making tomorrow's missiles today's work. This Army "in-house" research ranges across the entire spectrum of missile technology, including such activities as experi-

mentation with new high-energy rocket fuels, investigation of new means of steering missiles and advanced work in metals, chemicals and the physical sciences.

Huntsvillians at Redstone provide missiles in many sizes—the Pershing, Sergeant, Lance, Shillelagh, Nike-Hercules and Hawk. Although their shapes may differ, their pedigree is the same.

At the same time the Army was continuing with its accelerated missile program, the George C. Marshall Space Flight Center of the National Aeronautics and Space Administration was set up. Facilities and personnel were transferred from the Army Ordnance Missile Command. More people arrived in Huntsville, more houses were built, everything expanded.

Marshall's preliminary mission is the design, development and testing of large space boosters, such as the Saturn family. The Center concentrates on these launch vehicles essential to the Apollo Program as well as other major space missions.

There was abundant pride in Huntsville last November when the mighty Saturn rocketed toward the heavens. Among the most elated was the former Peenemunde, former Ft.

Bliss, former Army-Redstone rocketeer—Dr. Wernher von Braun, now director of the Marshall Center.

According to Dr. von Braun, the Marshall people "have the skills and talents for carrying a space project forward from the time it is a faint gleam in someone's eye until it is a bright twinkle in the heavens, transmitting to earth valuable data on its observations."

The people at Huntsville had every reason to be happy. Some 7,000 of them are engaged in research and development on the mammoth Saturn workhorse—from its inception through design, development, fabrication and assembly of hardware.

There are more than 260 structures and buildings at Marshall, including massive test stands, laboratories and Headquarters—often called the "von Braun Hilton."

And Marshall is branching out. New responsibilities have been added in the area of "payload" development. Spacecraft for flights planned for the late 60s and early 70s are on the agenda. Two examples of these new assignments are in the Apollo Applications Program—for NASA's Office of Manned Space Flight, and the Voyager Program—



The Arsenal was up for sale in 1947.



Main gate at Redstone Arsenal. Pershing is one of Army's mighty family of missiles.

for the Office of Space Science and Applications.

Among MSFC's other accomplishments in its less than ten years' existence are ten successful launchings of Saturn I in ten attempts. Marshall also developed the rockets which were used in launching the nation's first earth satellite. And rockets built there made American history by launching our first two spacemen—Alan Shephard and Virgil Grissom.

The Army's Redstone Arsenal and NASA's Marshall Space Flight Center are the largest magnets drawing talented people to Huntsville. Government contractors soon took their lead, as did other industry to change King Cotton to King Space.

Only one cotton mill remains open in the Huntsville area today. Now, chemicals and chemical products, building materials, soft drink bottlers, farm equipment, electronic and electrical components, abrasives, gas and electric heaters, rocket and missile components, engineering and fabrication, construction and many others—all form a surprisingly broad industrial base in the "Space City."

Companies such as AVCO, Boeing, Chrysler, Dow Chemical, IBM, Lockheed and RCA have moved facilities to Huntsville. And, of course, more people arrived "on the scene," settled their families and found a portion of their Camelot there.

General Electric is one of these firms that went to Huntsville—and stayed to grow. The first GE team arrived with Dr. von Braun in 1950; today the Huntsville Operations—Apollo Systems Department, employs some 900 people. Representatives of GE's Information Systems Marketing Operation, Defense Programs and Electronic Components are also located in Huntsville.

Under the direction of Jim Kieser, the ASD's are engaged in completing work related to Saturn I-B and Saturn V launch vehicles' electrical support equipment. This work

was begun for the Marshall Space Flight Center during the latter part of 1964. ASD at Huntsville is also engaged in associated MSFC tasks.

At the same time, the Huntsville Operations—ASD is seeking areas of applying the wealth of experience developed during its five and one-half years of working with NASA-Marshall. One indication: seeking to expand its scope of work to other major customer areas currently headquartered at Redstone Arsenal such as the Army Missile Command and the Sentinel Systems Command.

With activities at Marshall and

our committees. They serve without pay. Their experience and know-how have helped our city grow tremendously and in such a way that we are all very proud of it."

The city's outstanding urban renewal program is evident to anyone driving through Huntsville. Very few "crackerbox" homes, typical of boom towns, are found. Housing was the biggest problem the "Rocket City" had to face in the 1960 to 1964 period, when 13,000 people a year were settling there.

Mayor Hearn told CHALLENGE some of the gigantic problems that



Huntsville contains a tasteful blend of home styles—from antebellum to modern.

Redstone, and with industry moving in, Huntsville moved upward in population and outward in acreage. The city has done more than grow like an untended garden. Its growth has been well planned and permanent. Not satisfied with some of the antiquated buildings and facilities, Huntsville started renovating.

Huntsville's mayor, the Honorable Glenn Hearn, puts it this way: "This large influx of people demands the best, and we get the best. We have the finest people serving on

arose at that time. "For just one thousand people, the following would be needed: 92 acres of residential land, 23 acres of streets, 13 acres of public land; four acres of retail stores, 263 houses, 550 cars, three miles of paved streets, 150,000 gallons of water a day, two extra policemen, two extra firemen."

A few of the many hard-working groups active in the "Rocket City" are the Planning Commission, Housing Authority, the Huntsville Industrial Expansion Committee and the

Association of Huntsville Area Companies (AHAC). The first, composed of official and ex-officio members, has several committees whose members serve without pay. A principal goal of the planning commission is to make Huntsville the first slum-free city of its size.

AHAC, a voluntary organization of businesses in the area, is aimed at assuring progress in providing equal opportunities for all in employment, community services and community relations. GE's Dr. Frederik Schultz, consulting scientist in Huntsville Operations—ASD, is AHAC president



New office buildings, churches and schools can be found throughout the city.

this year, and has represented the Company in the organization since its inception about four years ago.

Many Huntsville citizens have volunteered their professional services in advisory or consulting capacities and have been appointed to serve on various municipal boards and commissions. The city has benefited from this widened pool of special skills, capabilities and interests created by the presence of new citizens connected with the Army, NASA and industry. The pride Huntsvillians—

new and native—are showing in their town is evidenced by the active beautification program. These people are striving to make their community—"Space City: Spic, Span and Spectacular."

In the center of town, you can still see elderly men chatting or drowsing in the Alabama sunshine, while all around them the city hums with a new energy.

The city is almost completely surrounded by handsome mountains, which provide wooded sloping lots for residential development. Newcomers have many choices in house

to be done. It was. For some time, one new classroom was built each week. Then the pace quickened to two and now it's up to an amazing three per week.

Good schools, they are modern and well-equipped. With the city's fantastic growth, schools have been able to offer a broader curriculum to meet the needs of this unique community. Approximately 80 percent of the graduating students go on to higher education at the Huntsville Campus of the University of Alabama, Athens College, Oakwood College, Alabama Agricultural and Mechanical College or many others within short driving distance. The University, which maintains evening and day classes, has broadened the scope of its courses in response to the needs of the community and requirements of the governmental and industrial programs.

In addition, the Research Institute of the University of Alabama was established in Huntsville to provide research opportunity in the aerospace and missile-related physical engineering sciences.

The Arts Council of Huntsville, a non-profit organization, coordinates, promotes and develops artistic and cultural activities in the city as well as Madison County.

Among organizations belonging to the Council are the Huntsville Civic Symphony—in existence since 1954, Youth Orchestra, Community Chorus, Ballet and Little Theatre. The Huntsville Art League and Museum Association is another non-profit, quite active, organization. Huntsville also boasts the Rocket City Chapter of the Society for the Preservation and Encouragement of Barbershop Quartet Singing in America.

Huntsville is surrounded by handsome scenery. Monte Sano Park, 1,900 feet high and one of the loveliest spots in the state, thrusts up out of the northeast corner of town. A short drive out of the city are two of



Huntsville's new Public Library has a collection of more than 100,000 books.

the "Great Lakes of the South"—Guntersville and Wheeler. Vacationing Huntsvillians have quite a variety of places to go—and not too far from home. There's an 18-hole municipal golf course, plus four private courses and four country clubs. Many other sporting facilities are available to Huntsville's residents.

Only ten percent of these residents were born in Huntsville. The rest migrated to "Space City" from all over the country, the world. You'll find soft Southern accents blending with Yankee twangs and with the sounds of at least 15 languages.

Even Dr. Wernher von Braun, who has lived in the Huntsville area for some 18 years, likes to call himself a native and often jokes, "You can tell I'm a Southerner by my accent." The director of the Marshall Space Flight Center and his family live not far from a mountain nicknamed "Sauerkraut Hill," because so many of the German-born engineers and scientists settled there.

Organizations such as the Rocket City Astronomical Association are well represented in Huntsville. Professional associations include the Alabama Society of Professional

Engineers, American Ordnance Association, National Association of Accountants and hundreds of others. Civic clubs, as well as fraternal and veteran's associations, are active.

Linking "Space City" to Redstone, Marshall and the Huntsville-Madison County Airport is Memorial Parkway. Some people consider it the new center of the city. The parkway is dotted with fabulous motels and restaurants which have sprung up to cater to a growing tide of business and commercial travelers. Here, too, are located some of the industrial sites and many of the community's shopping centers.

The Huntsville-Madison County Airport is new. Elegantly modern, with colors of blue and gold predominating, it is probably one of the largest indications of how Huntsville has progressed. Tastefully decorated, the terminal fits the growth of the city itself.

Three airlines now fly into Huntsville—with plans proceeding for more. Huntsville Airport can accommodate large jets, and when the new supersonic transports are in service, Huntsville will be ready for them.

Along with the new airport, the

city boasts a new library—with more than 100,000 books, new Chamber of Commerce building, and new hospitals. Two daily newspapers, as well as radio and television stations serve the Huntsville area. An educational tv station has recently been put into service.

Adding a solid warmth to the busy surroundings of the city are more than one hundred churches. To meet the needs of new residents, approximately 50 of these have been constructed since 1957.

What does the "man on the street" think of the vast changes going on in Huntsville? Comments are varied; all are favorable. One was slightly critical—this came from a native, who also happens to work at the Marshall Space Flight Center: "This great growth is tremendous, but it has one drawback. I can't go rabbit hunting as I did when I was a boy."

Other comments: "It's astonishing—almost everyone you meet is not a native Huntsvillian. Growth has been startling," "It's great for our children—with schools, libraries, playgrounds and sporting facilities open to them." "I was away for twenty years. Returning was like coming back to a different town. Everything was so different. I might add—for the better."

Mayor Hearn sums up the change this way: "Of course, we still have problems; every city does. But they are nothing that money and time can't cure. I'm extremely optimistic about the future of Huntsville; everything is going for us."

The people of Huntsville—including the mayor, the scientist, the teacher, the janitor—are acutely aware of the great work going on in their city. They know their minds and hands are helping forge the tools of the space age. They know they are deeply involved in writing a new chapter in the history of man—and they're writing that chapter with enthusiasm. ●