

# East Arnhem Land'dja wänja ga ñilimurrungu Australia'wu first Commercial Spaceport

## Yol dhuwala walala ELA mala?

ELA'dja walala ga ñilimurrungu Australian Company. Mayalinydja ñayi ELA'dja ga Equatorial Launch Australia.

## Nhaltjan ñuli ELA'yu birra'yun djäma'wu?

ELA yukurra wañanha'mirri, walala yurru wark'thun dhiyala Miwatj Region'ñura – East Arnhem Land.

Dhuwala Spaceport'mirri wänja ñayi ñuli launch rockets bala latju'kuma djuyun bala garrwar'lili.

Ga ñurrundydja, yaka walala ñuli wandirri djulk'marama 100km high'lilinydja.

Ga yalala'ñumiyu walala ñuli marrtji balana Deep Space'lilina.

## Nhaku launch rockets?

Dhuwala rockets ELA'yu yukurra launching, walala ñuli baki Science'gu ga communication (wañanhamirri bala ga rali) ga education (balanya bitjan bulu marngi'thirri ñapa-ñalmarama).

Dhuwala rockets'dja mala ga nyumukuniny yaka walala ñuli gama yolñu'nha walala'nha!

Dhiyanu rockets'dhu yukurra gäma satellites mala – balanya ñayi djakany'dja nhakun bread (lukanha'mirri ñatha). Dhuwala walala nyumukuniny satellites baki yukurra marr yurru malñ'marama dhäwu yowalk Science'thu dhawirka'yun yukurra, ga marngi'kuma ga mayali'mirriyama ñilimurrungu dhuwala wänja Earth ga Space.

Satellites'dhu wiripundydja dhamanapan yukurra ñilimurrungu Mobile phones ga gongayun Navigation system yäku GPS. Mutika'ñura ga wiripu mala wandinya'mirri mutika.

Technology dhuwala dhapirrk'kuma marrtji bitjan bili yurru satellites'yu bulundydja gongayun ga mulkakuma bulu technology.

## Nhaltjana ñuli rockets ga satellites'dja?

Dhuwala rockets ga satellites mala rrupiya yindi'mirri ga gama ñuli marngi'kunhamirri dhäwu. Ga gulku miri'thirri gongayunharawu ñuli roñin'marama djäkamirri. Bejuny'dja after ñayi ñuli rocket launching'dja ñayi ñuli malthun Arc ga parachute ñunhi yurru gäma satellite'nha ga warrpam "Dhäu" ñunhi ñayi ñuli wap'marama bala roñiyina rali'na dhipala munathalili'na – marr yurru marrama dhäwu ga bulu baki balanyara'wu djäma'wu.

## Wanhaka wänja'ñuranydja?

Wänja'ñuranydja ga Gulkuļa escarpment marr barrku bejuru Garma site'ñuru.

Ga wañanhamirri English'kurru ga Yolñu matha'kurru.

Ga lease'dja ñayi wekama ga Northern Land Council'yu (NLC).

Ñathili before ñayi lease wekama – walala NLC mala marrtji ga dhäwu gäma ñuriki – walalangu bäpurru'wu mala ñunhi walala wänja-watänju'mirri galki ñunha Garma site'ñura.

Wañanha'mirriyidydja walala rockets'buy dhäwu ga djäka'mirri (safety) dhäwu ga bulu wiripu ñunhi yol yurru gongayun dhuwala djäma.

NLC'yu wekama ga yorama 40 year lease'gu ga 270 hectares dhiyala wänja'ñura ga lakarama ñunhi ñayi dhuwala wänja Gumatj'gu bäpurru'wu yurru wekamanydja ga 60 hectares ELA'wu djäma'wu.

Ga dhuwala wänja, ELA'yu yukurra wark'thun ga marrama Government'kuñu yoranhamirri – nhaltjan ñuli mar'yun wänja'wu ga yolñu'wu dhiyala Miwatj'ñura.

Birra'yun yukurra dhiyaku site'ku, ELA ga wiripuny'dja wañanhamirri Gumatj'kala ga wänja-ñaraka dhiyaku'puy Rangers.

## Wanhaka wiripuny'dja launch sites?

Dhuwala gulku miri'thirri launch sites'dja – 10 dhuwala dap'marama yukurra dhiyanu wala.

Dhuwala include Alaska (Canada'ñura), Satish Dhawan (India'ñura), Florida (USA'ñura), Esrange (Sweden'ñura) ga bulu yuça site dhuwala buyma New Zealand ga dhanjuna Gulkuļa'ñurana.

Australia'yu yukurra history mulka space'buy ga satellites'buy baman'buy.

Ñilimurrundydja First Nations ñunhi launch satellites bejuru Woomera'ñuru (South Adelaide) yurru buyñuna dhuwala walala ñuli baki launch site'dja bili gulyun baman 1971'dhu.

## Nhaku Miwatj'dja – East Arnhem Land?

East Arnhem Land'dja ga latjuna ga dhapirrk'na wänja dhiyala Australia'ñura.

Dhuwalanydja bili rockets ñuli launch bala Bärra'lili ga galkina Equator'lilina – yurru ñal'mirithirri nhanju rom!

Ga dhuwala latju weather Northern Australia'ñura, balanya'mirri Rarranhdharr'mirriyu latjunydydja walu launching'gu rockets'gu.

Dhuwala community yutjuwala, dhiyaku area'wu yurru loñ'marama yukurra future'wu marngi'kunharawu. Ñunhiyiny'dja mayali ELA'yu yurru galki'kuma community'nha ga lap'marama yuça dhukarr marr ñilimurru yurru wirriki liya-djambatj'thirri ga djäma future'wu.

Ga bulundydja, Australiyan'dja stable ga trusted nation ñunhi dhuwala ñanapurrunygu lap'thun yuça Space Agency.

Bukmak dhuwala factors milkuma yukurra ELA'gu potential customers (rrupiya'mirri) ga djal ñan'thun dhiyaku East Arnhem Land site'gu.

## Nhä dhika ñal'mirithirri dhäwu ñunhi galki equator'ñura?

Birra'yurra nhepi.

Ñunhi nhe yurru wap'thun dhipunuru gali'ñuru ga bala bitjan, buyñuna nhe yurru dhal'yun barrku. Ga ñunhi nhe yurru dhawut'thun raki'yu, nhe yurru barrku dhal'yun. Dhuwalanydja same dhäwu nhakun rocket'gu.

Dhuwala wänja ñilimurrungu Earth ñuli wandirri räp ñunhala Equator'ñura.

Ñunhiyiny'dja mayali ñunhi lurrkun energy yukurra wandirri launching'gu rocket'gu.

## Nhä mala djäma yurru wekama?

ELA walala djal'thirri yukurra sustainable site'gu marr walala yurru wekama yolñu'wu yowalk djäma ga dhukarr liya-djambatj'kuma. Yurru yaka ñilimurru bukmak djal ñilimurru yurru Rocket Scientist' djäma marrama.

Industry ñunhi ñuli ñunhan balanya'kurru Spaceports ga dhamanapan Tourism, Manufacturing, Education, Science ga Technology.

Dhiyala Northern Territory Government lakarama ñunhi ñuli dhuwala yuça djäma mala wekama dhiyala Territory'ñura ga bulu dhambay weyin'ñumiwu. Ga ñunhi ñurrungy'dja stage walala yurru djäma, ñunhiyiny'dja ñuli lurrkun wekanju djäma balanya 10.

Ga ñunhi wänja galki djäma ñunha'lanydja Gulkuļany'dja - ñunhi ñuli wark'thurru wänjanydja mala ga buluna.

Ñali yurru gongayun'mirri, dhiyala buyma Schools ga community, ELA gatj'puyun ga nhäma nhä - walala wap'marama dhäwu ga liya-djambatj'kuma bulu djäma'wu mala.

Buluñu'wu djäma'wu ñunhi yukurra dhambay 3D Printing ga Satellite Manufacture.

Ga dhuwala Spaceport'dhu yurru gäma ñapaki'nha walala'nha Town'lili, balanya nhakun mitjji: Government workers, Education ga Industry workers, Business djäma'mirri ga Tourists mala bukmak Australia'ñuru ga World'ñuru.

Dhiyanunydydja ñuli mañu'tji-lap'maranju visitors'nha bala ñuli buluna gulku'thirri ga rrambanj'na wark'thurru East Arnhem Tourism Plan ga Yolñu Tourism Master Plan ga galki wark'thurru Industry ga Ranger groups mala.

## Ga nhaltjana ñunhi ñuli launch failure'dja?

Launch failure dhuwala balanya nhakun nhe yurru Yaka'yun bala ñayi yurru yatj'thirrina – Yurru yaka ñadup'thurra.

Ñunhi launch mutika mala yukurra djäma ELA'yu ñal'marama 98% success rate.

Ñunhiyidydja Regulations, Technology ga site wänja – dhuwala mala ñuli bak'thurrunydydja wata'yunydydja ga ñawulul'yunydydja galki launch pad ga rocket.

## Nha yukurra mar'yundamirri Rom ñorra dhiyaku Spaceport'gu?

Ñunhi dhuwala wänja launching rockets'dhu yukurra mar'yun bejuru Spaceport'ñuru balanya'mirriyu ñunhi walala ñuli djäma construction. Dhuwalanydja bili rrambanj djäka ga site ga rockets walalangu satellites yutjuwala.

Ñunhiyidydja International, Federal Territory ñal rom ga Regulations ñunhi ELA djal'thirri yukurra bukma'gu rocket launch'gu. Dhuwalanydja yukurra wänja'wu djäka'mirri ga but'thunarawu dhäwu ñunhi Government Regulators yurru nhäma ga birrkyun before launch.

Dhuwala Spaceport yukurra wark'thun wandirri under strict (ñal'mirithirri) regulation.

Buyñu launch ñuli marrtji – Yoranhamirri'wä!

Even ñunhi ñuli first one'dja rocket launch – ñayi ñuli Emergency Response Scenarios ñunhi walala ñuli practice ga Rom marranhamirri djäma bejuru Government Authorities'dhu.

Wänja djäma'mirri ñulil wark'thurru lurrkun (3) launch Pads. Ga wañanydja ñayi djakany'dja balanya bitjan wañany Tennis Court. Ga dhukarr yukurra wark'thun ga fence ga bathala'mirri wänja yaku Shed – ñal'kunhamirri ga Operation'gu.

Balanya ñayi Shed'dja nhakun Shipping container.



Ñunhi walala ñuli Rocket'dja launch bala ñayi ñuli ñawulul'nha dhawatthun bejuru. Balanyara ñawulul bitjan ñilimurru ñuli nhäma wiripu'ñura Industries nhakun Agriculture ga Mining'ñura.

Australia'yu ñäthili launch Rockets baman. Ñilimurru dhuwala First Nations'dja djuyun satellites bala space'lili baman over 50 years ago.

Balanya nhakun walala ñäthili djäma ñunhala Woomera'ñura (South Australia). Ga launch'dja rirrakay ga buyñuna ñäma marr barrku bejuru gumurr galki site'ñura.

Buyñu ñilimurru yurru mar-marryun'nha dhakay-ñama ñunhi walala ñuli dhunupa launch, bili nyumukuniny djaka ñayi rocket'dja ga räp ñayi yurru wandirri.

Outside'ñura dhiyala Australia - ñunhi wiripu mala Spaceports yurru dhambay-manapan ga wekanhamirri ñal'mirithirri Rom ga Regulations.

Wiripundydja yukurra djäma galki bulu yolñu'wala ga yalngi'ñura wänja'ñura.

Nhakun NASA launch site ñunha Florida – USA'ñura, walala ñuli miri'thirri djäka wänja'wu manymak'kuma - djulk'marama yukurra dhungarra 10 years ga bulu ga dhiyanu study'yu lakara yukurra ñunhi wänja galki Flora ga Fauna manymak ga wal'ñamirri ga bulu gapu'ñura galki gulku'thina guyanydydja mala.

## Nhäthinyara ñayi Australi Space Industry'dja?

Australia Space Industry'dja ga worth yindi miri'thirri rrupiya'mirri \$3-4 Billion. Ga dhiyaliyi wark'thun yukurra ga djulk'marama 10,000 ñapaki walala ñunhi walala baman wark'thurruna dhiyala Industry'ñura.

388 companies mala – djäma'mirri, 56 Education Institutions (marngi'kunhamirri ga gongga'yunamirri Institutions), 24 Government groups mala ñunhi walala ñuli dhärra ga wetj'wikama 0.8% Australia'wu GDP.

Australian Government'dhu wekama \$41M dhiyaku yuça'wu djäma'wu yäku Australia Space Agency.

Ga yuça ñayi Space Agency bungawa Dr Megan Clark bitjan wañu – "Ñunhi ñayi dhiyanu yuça'yu djäma'yu Space Industry'yu yurru wekama djäma ga income (rrupiya).

Ga Australia Space Agency'yu milkuma yukurra dhamanapan'mirri raki ga gongga'yunamirri dhäruk (bala ga rali) Government service'gu, Mining'gu, Agriculture'wu ga Aquaculture'wu.

## Nhatha ñuli dhuwala ELA'dja start?

Walalangu djäma'mirri yurru nhäma ga wekama dhäruk launch'gu dhungarra'yu 2020. Ga dhiyakunydydja walala yurru buna regulations'gu ga start'nha wänja'na djäma ga yutjuwala launch marr ñayi yurru lap'marama ñunha wänja Gulkuļa'ñura.

Ga dhiyaku djäma'wu – Spaceport djäkamirri ga birrkyuna'mirri liya-djambatj'ñapaki yurru galki'thirrina.

Wänja'wunydydja djäma'wu walala yurru baki gumurr galki Yolñu'nha ga djäma'mirri (Dept).

Ga bulu walala yurru loñ'marama bukma'nha Initial Launch;kunydydja dhiyala Gulkuļa. Walu'na yurru nhämnydydja.

## Ga nhana bulundydja?

Ga ñunhi walala wark'thun yukurra Government ga Regulators mala, ELA'yu yurru dhäwu lakarama Yolñu Radio'kurru May'yu ga bulundja Gärm'mirriyuna ga ñan'thun nhuna'nha dhäwu ga dhunupa'kuma lakarama. ELA'yu yurru dhambay-manapan local schools'nha regional ga community meetings ga Business Forums ga Ranger mala.

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