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La turbina eólica es un componente del aerogenerador compuesto por tres palas expuestas al viento. Este dispositivo transforma la energía del viento, expresada en velocidad, en energía mecánica, la

5. JUSTIFICACIÓN Justificación tecnológica El diseño innovador de una turbina eólica LIAM F1, radica en la eficiencia, por lo cual puede aumentar significativamente la generación de energía en lugares

Qué Es Una Turbina EólicaInterior de Los Generadores EólicosElementos de Una Turbina EólicaTipos de Turbinas EólicasFuncionamiento de Un Parque EólicoVentajas Y Desventajas de La Energía EólicaUna turbina eólica es un dispositivo mecánico que convierte la energía del viento en energía eléctrica. Está diseñada para convertir la energía cinética del viento en energía mecánica mediante el movimiento de las palas del rotor, que posteriormente se convierte en electricidad gracias a un generador. El principio básico de funcionamiento de una tu...Ver más en renovablesverdes #b_results .b_vidAns{border-radius:6px;box-shadow:0 0 0 1px rgba(0,0,0,.05);padding:16px 20px;gap:10px;background:#fff}@charset "UTF-8";#b_results .b_ans.b_vidAns{box-shadow:none!important;padding:var(--smtc-gap-between-content-medium) 0!important;background:var(--bing-smtc-background-ctrl-fade-on-image-stop-0)}#b_results #serpvidans.vsacf .mc_vtvc,#b_results #serpvidans.vsacf .mc_vtvc_th,#b_results #serpvidans.vsacf .cico,#b_results #serpvidans.vsacf .mc_vtvc_htb,#b_results #serpvidans.vsacf .vrhc,#b_results #serpvidans.vsacf .vrhcp,#b_results #serpvidans.vsacf .vrhtc,#b_results #serpvidans.vsacf .vrhtpc{border-radius:var(--mai-smtc-corner-card-default)}#b_results #serpvidans.vsacf .mmlist .mc_vtvc,#b_results #serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta{margin:0}#b_results #serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_channel,#b_results #serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_row_channel{color:var(--smtc-foreground-content-neutral-primary)}#serpvidans.vsa cf,#serpvidans.vsacf .expctn .expbody,#serpvidans.vsacf .mmlist{display:flex;flex-direction:column;gap:var(--smtc-gap-between-content-medium)}#serpvidans .vsacf .cico{height:auto}#serpvidans.vsacf .mc_vtvc_ban_lo{top:0;right:auto}#serpvidans.vsacf

```
.mc_cwvc .mc_vtvc .mc_vtvc_meta,#serpvidans.vsacf .mmlist .mc_vtvc
.mc_vtvc_meta{height:auto;padding:var(--smtc-gap-between-content-xx-small) 0
var(--smtc-gap-between-content-xx-small)
var(--smtc-gap-between-content-medium);display:flex;flex-direction:column;justify-content:space-between}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_title,#serpvidans.vsacf
.mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_title{color:var(--smtc-ctrl-link-foreground-brand-rest);font:var(--bing-smtc-text-global-body2);height:auto;display:-webkit-box;-webkit-line-clamp:2;-webkit-box-orient:vertical}#serpvidans.vsacf
.mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area,#serpvidans.vsacf .mc_cwvc
.mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block{display:flex;flex-direction:column;gap:var(--smtc-padding-ctrl-text-side)}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_row,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block
.mc_vtvc_meta_row,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_row,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block
.mc_vtvc_meta_row{color:var(--smtc-foreground-content-neutral-primary);height:var(--mai-smtc-padding-card-default);font:var(--bing-smtc-text-global-caption1)}#serpvidans.vsacf .mc_cwvc .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block_area .mc_vtvc_meta_row
.mc_vtvc_meta_row_channel::before,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before,#serpvidans.vsacf
.mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area .mc_vtvc_meta_row
.mc_vtvc_meta_row_channel::before,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before{content:""}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_pubdate,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_pubdate,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area .mc_vtvc_meta_pubdate,#serpvidans.vsacf .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block
.mc_vtvc_meta_pubdate{color:var(--bing-smtc-foreground-content-neutral-tertiary);padding-bottom:0}
.vsacf .mc_cwvc .mc_vtvc_con_rc,.vsacf .mmlist .mc_vtvc_con_rc{display:flex}.vsacf .mc_cwvc
.mc_vtvc_con_rc .mc_vtvc_meta_w,.vsacf .mmlist .mc_vtvc_con_rc
.mc_vtvc_meta_w{height:auto}.vsacf .b_title{padding-left:0}.vsacf .b_title
.mmtitle{font:var(--bing-smtc-text-global-subtitle1-strong);margin-bottom:0}.vsacf .b_title .mmtitle
a::after{content:"";margin:5px 5px 0 0;border-top:2px solid
var(--smtc-foreground-content-neutral-primary);border-right:2px solid
var(--smtc-foreground-content-neutral-primary);background-size:7px
7px;width:7px;height:7px;transform:rotate(45deg);display:inline-block;margin-left:4px}#serpvidans.vs
acf .b_title .mmtitle{margin-bottom:0}#serpvidans.vsacf .b_title .mmtitle
a{color:var(--smtc-foreground-content-neutral-primary)}#serpvidans.vsacf
.mc_cwvc{width:100%;margin-bottom:var(--smtc-gap-between-content-x-small)}#serpvidans.vsacf
.mc_cwvc .mc_vtvc{box-shadow:none}#serpvidans.vsacf .mc_cwvc .mc_vtvc
```

```
.mc_vtvc_meta{height:100%;padding:var(--smtc-gap-between-content-x-small) 0
var(--smtc-gap-between-content-x-small)
var(--mai-smtc-padding-card-default);background:var(--bing-smtc-background-ctrl-fade-on-image-st
op-0)}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta
.mc_vtvc_title{font:var(--bing-smtc-text-global-body1)}#serpvidans.vsacf .cardless.mmlist
.mc_vtvc_con_rc,#serpvidans.vsacf .cardless.mmlist .mc_vtvc_th{height:auto}#serpvidans.vsacf
.vsb_tr_c.va_tt{margin:0}#serpvidans.vsacf .vtbc .mv_vtvc_play,#serpvidans.vsacf .vtbc
.mv_vtvc_play_ext{position:static}#serpvidans.vsacf .va_tt
.mc_vtvc_ban_lo{display:block}#serpvidans.vsacf
.mc_bc{width:auto;border-radius:var(--smtc-ctrl-badge-sm-corner);padding:var(--smtc-padding-ctrl-te
xt-side) var(--smtc-gap-between-content-xx-small)}#serpvidans.vsacf .rmts .mc_bc
ems{display:none}#serpvidans.vsacf
a.vsb_tr_t{color:var(--smtc-foreground-content-neutral-primary)}.vsacf .va_tt .vsb_tr_chd
.mc_vtvc_th_dock.rmoverlay{height:36px}.vsacf .va_tt .vsb_tr_chd
.mc_vtvc_th_dock{height:92px;position:absolute;bottom:0;background:linear-gradient(180deg,var(--
bing-smtc-background-ctrl-fade-on-image-stop-0) 0%,var(--mai-smtc-background-ctrl-on-image-rest)
100%)}.vsacf .va_tt a.vsb_tr_t{padding:0 0;font:var(--bing-smtc-text-global-body-2-alt-strong)}.vsacf
.va_tt .vsb_tr_chd .mc_vtvc .mc_vtvc_meta,.vsacf .va_tt .vsb_tr_chd .mc_vtvc
.mc_vtvc_title{color:var(--mai-smtc-foreground-ctrl-on-image-rest)}.vsacf
span.vcmt_ctt{font:var(--bing-smtc-text-global-caption2);margin:var(--smtc-gap-between-content-xx-
small) 0 0;height:16px}#serpvidans.vsacf .vsb_tr_chd .mc_vtvc_tot .mc_vtvc_title
strong{font-size:14px;line-height:20px;display:unset}#serpvidans.vsacf .va_tt .b_slidr
.slide:not(:first-child){margin-left:var(--smtc-gap-between-content-small)}#serpvidans.vsacf .va_tt
.vsb_tr_chd .mc_vtvc
.mc_vtvc_title{white-space:normal;display:-webkit-box;-webkit-line-clamp:2;-webkit-box-orient:vertic
al}#serpvidans.vsacf .b_module_expansion_control .b_btnContainer
.b_CompactExpansion{background-color:var(--bing-smtc-background-ctrl-neutral-rest);display:flex;ju
stify-content:center;align-items:center;gap:4px;width:fit-content;height:auto;padding:8px
12px}#serpvidans.vsacf .b_module_expansion_control .b_btnContainer .b_CompactExpansion
.b_CompactExpansionBtnText{font:var(--bing-smtc-text-global-caption1-strong);color:var(--bing-smt
c-foreground-content-brand-rest)}#serpvidans.vsacf .b_module_expansion_control .b_btnContainer
.b_CompactExpansion .b_arrow{display:flex;margin:0;height:auto}#serpvidans.vsacf
.b_module_expansion_control .b_btnContainer .b_CompactExpansion .b_arrow
path#Shape{fill:var(--bing-smtc-foreground-content-brand-rest)}#serpvidans.vsacf
.b_module_expansion_control
.b_btnContainer::after{content:"";position:absolute;width:100%;bottom:20px;left:0;height:1px;border-
radius:1px;background:var(--smtc-stroke-ctrl-on-neutral-rest)}#b_results
.b_ans.b_vidAns{box-shadow:none;padding:12px 20px 0}#b_results .b_ans.b_vidAns
.vasac{padding:unset;margin:0}#b_results .b_ans.b_vidAns .vsa
.b_attribution{padding-bottom:0}#b_results .b_ans.b_vidAns .cardless .salink{margin:0}#b_results
.b_ans.b_vidAns .mmlist .mc_vtvc{margin-top:10px}#b_results .b_ans.b_vidAns .mmlist .mc_vtvc
.mc_vtvc_meta{display:flex;flex-direction:column;justify-content:space-between;margin:0 10px 4px
```

```
12px}#b_results .b_ans.b_vidAns .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_channel{color:#111}#b_results .b_ans.b_vidAns .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_row_channel,#b_results .b_ans.b_vidAns .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area{color:#666}#b_results .b_ans.b_vidAns .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block_area{bottom:0;height:unset}.b_dark .vsa.cardless
.mc_vtvc{background-color:unset}.mmtitle>a{display:block}.mc_fh{height:100%;border-radius:6px}.
mc_tc_bs{overflow:hidden}#mc_cwvc_1775196765137 { width:356px; max-width: 100%; } .mc_vtvc
.mc_vtvc_meta { padding: 16px 16px 16px 16px; } .mc_vtvc .mc_vtvc_meta_w { height: 139px;
margin-top: -0px; } .mc_vtvc .mc_vtvc_title { height: 54px; line-height: 18px; margin-bottom: 18px;
margin-top: 0px; } .mc_vtvc .mc_vtvc_meta_block_area { height: 35px; } .mc_vtvc .vtmu, .mc_vtvc
.vtpl { bottom: 147px; } .mc_vtvc_th_dock { height: 139px; } .mc_vtvc_th .cico { height: 200px; }
.mc_vtvc{background-color:#fff;box-shadow:0 0 0 1px
rgba(0,0,0,.05);line-height:0;margin:0;position:relative;border-radius:6px;overflow:hidden}.mc_vtvc.n
oshadow{box-shadow:none}.mc_vtvc_con_rc{border-radius:6px;overflow:hidden;position:relative}.m
c_vtvc>a{color:#71777d;display:block;text-decoration:none;width:100%}.mc_vtvc>a:focus-visible::aft
er{outline:2px solid
var(--smtc-ctrl-focus-outer-stroke);width:100%;height:100%;content:"";outline-offset:-2px;position:abs
olute;top:0;left:0}.mc_vtvc_th{background-color:#d5d5d5;position:relative}.mc_vtvc_th
.cico{border-radius:0}.mc_vtvc_ban_lo,.mc_vtvc_ban_up{position:absolute;vertical-align:middle}.mc
_vtvc_ban_lo{bottom:0}.mc_vtvc_ban_up{top:0}.mc_vtvc_title{font-weight:normal;margin-bottom:11
px;overflow:hidden;color:#111;height:54px;line-height:18px}.mc_vtvc_title
a{display:inline-block;color:#111}.mc_vtvc_title
a:hover{text-decoration:underline}.mc_vtvc_src_ico{float:left;margin-right:4px}.mc_vtvc_act{height:1
6px;margin-top:-40px;padding:12px
8px;z-index:1}.mc_vtvc_actc{right:16px;bottom:16px;position:absolute;display:inline-block;z-index:1}
.mc_vtvc_act_sep{border-top:1px solid #d5d5d5;height:40px;margin:0 8px}.mc_vtvc_fh
.mc_vtvc_act_sep,.mc_vtvc_fh .mc_vtvc_act{visibility:hidden}#serpvidans
.b_topTitle{margin-bottom:8px}.mc_vtvc_htc{width:100%;height:100%;position:absolute;top:0;botto
m:0;left:0;right:0}.mc_vtvc_htb{width:100%;height:100%;background:rgba(0,0,0,.7);position:absolute
;top:0;bottom:0;left:0;right:0}.mc_vtvc_ht{width:100%;padding:0
16px;line-height:16px;color:#fff;text-decoration:underline;word-break:break-word;box-sizing:border-b
ox;vertical-align:middle;text-align:center}.mc_vtvc_th_live_b{background-color:#c80000;color:#fff;dis
play:inline-block;padding:2px 8px;font:11px/14px
Arial;border-radius:2px;text-transform:uppercase;height:15px;width:26px;position:absolute;left:8px;to
p:110px}.isvctrl .isv
.mc_vtvc_ban_up{left:0;right:initial}.mc_vtvc_ban_lo,.mc_vtvc_ban_up{right:0}.vt_text.b_IRight
.b_ILLeft{margin:0 0 0 1px;height:14px;line-height:14px;padding:2px
8px;background:rgba(0,0,0,.75);border-radius:2px;font-weight:bold}.mc_vthtb{width:100%;height:10
0%;background:rgba(0,0,0,.7);position:absolute;top:0;bottom:0;left:0;right:0;display:table}.mc_vtht{w
idth:100%;padding:0
16px;line-height:16px;color:#fff;text-decoration:underline;word-break:break-word;box-sizing:border-b
ox;vertical-align:middle;text-align:center;display:table-cell}.vt_text.b_IRight .b_ILLeft{margin:0 0 0
```

1px;height:14px;line-height:14px;padding:2px
8px;background:rgba(0,0,0,.75);border-radius:2px;font-weight:bold}.emptyStyleForDebuggingPurpo
se{top:0}.emptyStyleForDebuggingPurpose{top:0}.mc_vtvc_center_play{width:32px;height:32px;bac
kground-size:contain;position:absolute;margin:auto;bottom:0;top:0;left:0;right:0;box-shadow:none;bo
rder-radius:0}.mc_vtvc_center_play.rmvbg{width:32px;height:32px;background-image:none}.mc_vtv
c_htb,.mc_vtvc_ht{display:none}.vt_onhv .mc_vtvc_htb{display:table}.vt_onhv
.mc_vtvc_ht{display:table-cell}.mc_vtvc_center_play{display:inline-block}.vt_onhv
.mc_vtvc_center_play{display:none}.mc_vtvc .vtmu,.mc_vtvc .vtpl{bottom:163px}.vsarf .mc_vtvc
.vtmu,.vsarf .mc_vtvc .vtpl{bottom:122px}.svarh #mmcar .mc_vtvc .vtmu,.svarh #mmcar .mc_vtvc
.vtpl{bottom:137px}.svarht #mmcar .mc_vtvc .vtmu,.svarht #mmcar .mc_vtvc
.vtpl{top:8px;left:8px}.mc_vtvc_center_play{background-image:url(data:image/svg+xml,%3Csvg%20
width%3D%2232%22%20height%3D%2232%22%20viewBox%3D%220%200%2032%2032%22%2
0fill%3D%22none%22%20xmlns%3D%22http%3A%2F%2F%2F2000%2Fsvg%22%3E%0D%0A%2
0%20%20%20%3Crect%20width%3D%2232%22%20height%3D%2232%22%20rx%3D%2216%22
%20fill%3D%22black%22%20fill-opacity%3D%220.6%22%2F%3E%0D%0A%20%20%20%20%3C
path%20d%3D%22M14.2354%2010.1923C13.2355%209.62986%2012%2010.3524%2012%2011.
4997V20.5C12%2021.6472%2013.2355%2022.3698%2014.2354%2021.8073L22.2356%2017.307
3C23.2551%2016.7339%2023.2551%2015.2661%2022.2357%2014.6926L14.2354%2010.1923Z%
22%20fill%3D%22white%22%20fill-opacity%3D%220.9%22%2F%3E%0D%0A%3C%2Fsvg%3E)}.
mc_vtvc_meta{box-sizing:border-box;display:inline-block;line-height:18px;position:relative;width:100
%}.mc_vtvc_meta_block{bottom:0;position:absolute;width:100%}.mc_vtvc_meta_row{line-height:16p
x;font-size:11px;height:17px;overflow:hidden;text-overflow:ellipsis;white-space:nowrap}.mc_vtvc_me
ta_row a{display:inline-block}.mc_vtvc_meta_row
a:hover{text-decoration:underline}.mc_vtvc_meta_block_area{position:relative}.mc_vtvc_meta_block
,.mc_vtvc_meta_block a{color:#444}.b_dark
.mc_vtvc_meta_block{color:#edebe9}.mc_vtvc_meta_row>:nth-of-type(n+2)::before{content:"
"}.mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before{content:"
"}.mc_vtvc_kmt_title{line-height:18px;padding-bottom:4px;font-weight:bold;color:#00809d;text-transf
orm:uppercase;font-size:11px}.mc_vtvc_kmt,.mc_vtvc_con_rc.onhov .wkmt
.mc_vtvc_meta_row,.mc_vtvc_con_rc.onhov .wkmt .tbc_tt{display:none}.mc_vtvc_con_rc.onhov
.wkmt
.mc_vtvc_title{max-height:18px;margin-bottom:18px;overflow:hidden}.mc_vtvc_con_rc.onhov.mmsts
.mc_vtvc_title{visibility:hidden}.mc_vtvc_con_rc.onhov
.mc_vtvc_kmt{display:block}.mc_vtvc_kmt_content
.b_factrow{line-height:17px;font-size:11px;max-height:34px;overflow:hidden;text-overflow:ellipsis;pa
dding:0 16px 0 0;color:#444}.mc_vtvc_meta
.mc_vtvc_kmt_title{line-height:18px}.mc_vtvc_title:hover{text-decoration:none}.mc_vtvc_meta_pubd
ate{color:#444;padding-bottom:3px}.mc_vtvc_meta_channel{color:#444}.mc_vtvc_meta_w,.mc_vplv
c_meta_w{position:relative}.mc_vtvc_meta_bg_w,.mc_vplvc_meta_bg_w{height:100%;width:100%;
overflow:hidden;position:absolute;top:0}.mc_vtvc_meta_bg_w .cico,.mc_vplvc_meta_bg_w
.cico{border-radius:0;overflow:visible}.dg_u .mm_vidch_th_c{overflow:visible}.dg_u
.mm_vidch_th_bg img{margin-top:-20px}.emptyStyleForDebuggingPurpose{top:0}.mc_vtvc_meta_w

```
.mc_vtvc_meta{background:rgba(255,255,255,.75)}.mc_vtvc_meta_bg_w img,.mc_vtvc_meta_bg_w
.mc_vtvc_cb_w{filter:blur(25px);transform:scale(1.2)}body{--video-metadata-channel-color:#3c3c3c}
body.b_dark{--video-metadata-channel-color:unset}.vsarf .mc_vtvc_meta_pubdate{color:unset}.vsarf
.mc_vtvc_meta_channel{color:var(--video-metadata-channel-color)}.vsarf .mc_vtvc
.mc_vtvc_meta_w .mc_vtvc_title,.vsarf .mc_vtvc .mc_vtvc_meta_w .mc_vtvc_title
strong{font-weight:bold}.vsarf .mc_vtvc_meta_w
.mc_vtvc_meta_row{font-size:13px}.emptyStyleForDebuggingPurpose{top:0}.vsarf .mc_vtvc_th
.cico{height:132px}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleForDebuggingPurpose{top:
0}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleFor
DebuggingPurpose{top:0}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleForDebuggingPurpos
e{top:0}.vtbc
.mv_vtvc_play{display:inline-block;position:absolute;bottom:8px;left:9px;height:8px;width:7px}.vtbc
.mv_vtvc_play_ext{background:url(/rp/Lp38sn_O4jegSK0IHxZVxyp-yKQ.png) -172px
-31px;display:inline-block;height:8px;width:12px;position:absolute;bottom:8px;left:6px}.vtbc
.pivot{height:20px;width:8px;min-width:8px}.vtbc
.mv_vtvc_play{background:url(
IBAMAAADHKvg1AAAAIVBMVEX////////////////////9/gMdvAAAACnRSTIMAETNEVWalm
bvuo4D1oAAAAB9JREFUCB1jmMoABKuaQcSqQhCxKgFGgLnQIkpQAwA8zkLyQAI6F0AAAAAS
UVORK5CYII=)}.mc_bc_w{height:18px;padding:8px;text-align:right}.mc_bc{background-color:rgba(
0,0,0,.75);padding:2px
8px;line-height:14px;color:#fff;display:inline-block;vertical-align:middle;border-radius:2px;font-weight:
bold}.mc_bc_w .pivot{text-align:center;margin-right:1px;height:14px}.vsarr .mmgrid .mc_bc_w
.mc_bc{background-color:rgba(0,0,0,.75);opacity:1}.mmsi{height:16px;width:16px;position:relative;to
p:5px;padding-right:var(--smtc-gap-between-content-xx-small)}.mmsi-microsoftnews,.mmsi-msn{top:
3px}.vrhdata{display:none}.vrhc line.nhvpv .pffvi,.vrhc line.nhvpv[data-tps="S"] .pffvt,.vrhc
line.nhvpv[data-tps="M"] .pffvt,.vrhc line.nhvpv[data-tps="L"] .pffvt{display:inline-flex}.vrhc line.nhvpv
.vrhtc.pffv .vrhol{display:none}.vrhc line.nhvpv .vrhtc.pffv
.player_ol{background:var(--mai-smtc-background-ctrl-on-image-hover);transition:background-color
.5s;display:flex;align-items:center;justify-content:center;padding:var(--smtc-gap-between-content-x-s
mall);gap:var(--smtc-gap-between-content-x-small);box-sizing:border-box}.mc_vtvc_th
img{transition:all .3s ease-out}.nhvpv+.mc_vtvc_th
img{transform:scale(1.1)}.smtplayerhtml5{height:100%;width:100%;overflow:hidden}.smtplayerhtml5
video{min-height:100%;min-width:100%}.smtplayerhtml5
.videoplaying{background-color:#000}.smtplayerhtml5.hide{display:none}.pffvt{display:none;color:va
r(--mai-smtc-foreground-ctrl-on-image-rest);font:var(--bing-smtc-text-global-subtitle2-strong)}.pffvi{m
ask:url(/rp/ui07wU6K7FR_inzG7DRbP1i8fGo.svg) center
no-repeat;mask-size:12px;background:var(--bing-smtc-background-card-on-image-default);width:20
px;height:20px;flex-shrink:0;align-self:flex-start}[data-tps="L"]
.pffvt{font:var(--bing-smtc-text-global-subtitle2-strong)}[data-tps="L"]
.pffvi{width:22px;height:22px;mask-size:16px}[data-tps="S"] .pffvt{font-size:0}[data-tps="S"]
.pffvi{width:24px;height:24px;mask-size:24px;align-self:center}.hvpv.h5s
.pffvt{display:inline-flex}.hvpv.h5s .vrhtc.pffv .vrhol{display:none}.hvpv.h5s .vrhtc.pffv
```

```
.player_ol{background:var(--mai-smtc-background-ctrl-on-image-hover);transition:background-color
.5s;display:flex;align-items:center;justify-content:center;padding:var(--smtc-gap-between-content-x-s
mall);gap:var(--smtc-gap-between-content-x-small);box-sizing:border-box}.pffvt{text-decoration:unde
rline}.vrhcp
.vrhol{position:absolute;width:100%;height:35px;max-height:35px;bottom:0;left:0;padding:0;backgro
und:none;display:block;z-index:9}.vrhcp .vrhol.hide,.vrhcp .vrhol
.hide{display:none}.vrhot{white-space:nowrap;text-overflow:ellipsis;overflow:hidden;display:inline-blo
ck;position:absolute;max-width:240px;height:18px;line-height:14px;margin-left:8px;top:10px;left:0;rig
ht:0;border-radius:2px;padding-right:8px}.vrhot div{display:inline-block}.vrhot
nt{color:#fff;font-size:11px;font-weight:bold;background-color:rgba(0,0,0,.75);padding:2px
8px;margin-left:0;top:0;box-sizing:border-box;position:relative}.vrhc
.ricons{position:absolute;right:8px;top:10px;left:auto;bottom:auto;height:18px;display:inline-block;cur
sor:pointer}.vrhol.icons_1 .vrhot{margin-right:27px}.vrhol.icons_2
.vrhot{margin-right:49px}.vrhol.icons_3 .vrhot{margin-right:79px}.vrhol .vrhot
nt,.vsb_tr_chd
.vrhol.icons_1
.vrhot{margin-right:0}.vpb{position:absolute;display:block;bottom:0;left:0;height:4px}.vpb
div{position:absolute}.vpb nt{width:0;background:#fff}.vpb
nt.test{display:none}.vpb.back{background-color:#999}.vrhcp
.vrhol.npb{height:36px;max-height:36px}.vrhol
.vadda{width:22px;height:18px;padding:0;margin-right:0;margin-left:2px;bottom:0;position:relative;di
splay:inline-block;z-index:1;background:rgba(0,0,0,.75);border-radius:2px;overflow:hidden}.vrhol
.vadda.hide{display:none}.vrhol .vadda .mc_vfaa{margin:3px 5px}.ricons .vol{float:left}.ricons
.adultFlag{float:right}.vol{width:22px;height:18px;bottom:0;margin-left:1px;margin-right:1px;position:r
elative;display:inline-block}.vol.hide,.vol .hide{display:none}.vol
.bg{background:rgba(0,0,0,.75);border-radius:2px}.vol.bg,.vol nt{position:absolute;bottom:0}.vol
.vol.bg.volNb{border-radius:0 0 2px 2px}.vol .volsliderHandle.bg{border-radius:2px 2px 0 0}.vol nt
.volsliderHandle{height:70px;display:none;width:22px;float:left;bottom:18px;position:absolute;display
:block}.vol nt .volsliderHandle.hide{display:none}.volsliderHandle
.vsb{height:54px;width:4px;background-color:#999;margin:9px auto
8px;position:relative;display:block;border-radius:2px}.volsliderHandle
.vsh{height:6px;width:14px;padding:9px 7px 9px 7px;margin:0
-12px;display:block;position:absolute;top:30px}.volsliderHandle
.vsh.hide{display:none}.volsliderHandle
.vshi{height:4px;width:14px;background-color:#fff;border-radius:2px}.volMutelcon{width:16px;height:
14px;margin:2px
4px;float:left}.volMuteHandle{width:22px;height:18px}.vo{background:url(/rp/fFZxBXEIP9WYOO0jhT
aElyLhEVU.svg) no-repeat}.vm{background:url(/rp/fsX-ZVd03wB2TL0vmQJxSp4U9vs.svg)
no-repeat}.vl{background:url(/rp/YXYMPC1Rry_XJGc7Yg8IR4B2eEs.svg)
no-repeat}.vf{background:url(/rp/NosrIR4amKts1zYxWy3laZN3HRk.svg)
no-repeat}@media(forced-colors:active){.vol{forced-color-adjust:none}}.vrhc line .vt_vp,.vrhc.popup
.vt_vp,.vrhc.mousefollow
.vt_vp{position:absolute;bottom:0;border:hidden;padding:0;top:0;left:0;z-index:3}.vrhtc
```

```
.hide{display:none}.vrh_clc .vt_vp,.vrh_clc .vrhtc .vrhi,.vrh_clc .player_ol{cursor:pointer}.vrh_clc
.cico{border-radius:0}.vrhtc{border:hidden;top:0;left:0;padding:0}.vrhc.mousefollow
.vrhtc,.vrhc.popout .vrhtc{background-color:#999}.vrhtpc.load
.player_ol{background:url(/rp/J_o2maogFDeUOsovPJL-ofEuxJ4.gif) center center no-repeat}.vrhc
line .vrhtc .vrhi,.vrhc.popout .vrhtc .vrhi,.vrhc.mousefollow .vrhtc
.vrhi{position:absolute!important;border:hidden;z-index:2;padding:0;left:0;top:0}.player_ol{position:a
bsolute;width:100%;height:100%;bottom:0;border:hidden;z-index:7}.vrhc.popout,.vrhc
line,.vrhc.mousefollow{border-radius:6px;overflow:hidden;display:table-row-group;background:none}
.vrhc.popout,.vrhc.mousefollow{z-index:4;box-shadow:0 4px 4px rgba(0,0,0,.1),0 2px 80px
rgba(0,0,0,.2)}.vrhc line{z-index:1;margin:0}.vrhc.popout,.vrhc
line{position:absolute;top:0}.vrhc.popout{border:1px solid
#fff}.vrhc.mousefollow{position:fixed}.vrhpc{position:relative;top:0;left:0;display:table-row}.vrhpc
.vrhtc{position:relative;overflow:hidden}.vrhc.hide{display:none}@keyframes
vh_fadein{from{opacity:0}to{opacity:1}}.vrhc:not(.hide){animation:vh_fadein 250ms}.vrhc line
img{color:transparent}.vrhc
line.fullsize{height:100%}.vrhc,.vrhc: hover,.vrhc: link,.vrhc: active,.vrhc: visited{color:#000;text-decorati
on:none}.vrhc.vrh_clc{cursor:pointer}a.hover-anchor{display:block;height:100%;width:100%;text-dec
oration:none}.vrhstat{height:0;overflow:hidden}.mmlist .mc_vtvc .mc_vtvc_meta { padding: 12px
16px 16px 16px; } .mmlist .mc_vtvc .mc_vtvc_meta_w { height: 112px; margin-top: -0px; } .mmlist
.mc_vtvc .mc_vtvc_title { height: 44px; line-height: 22px; margin-bottom: 0px; margin-top: 0px; }
.mmlist .mc_vtvc .mc_vtvc_meta_block_area { height: 40px; } .mmlist .mc_vtvc .vtmu, .mmlist
.mc_vtvc .vtpl { bottom: 120px; } .mmlist .mc_vtvc_th_dock { height: 112px; } .mmlist .mc_vtvc_th
.cico { height: 131px; } .mmlist .mc_vtvc{margin:10px 1px 0}.mmlist
.mc_vtvc_con_rc{display:flex}.cardless .mmlist .mc_vtvc_con_rc{height:112px}.mmlist .mc_vtvc
.mc_vtvc_meta{display:flex;flex-direction:column;justify-content:space-between;margin:0 10px 4px
12px;padding:0}.mmlist
.mc_vtvc_title{font-weight:400;font-size:16px;height:44px;line-height:22px;margin-bottom:0;margin-t
op:0;color:unset}.mmlist .mc_vtvc_meta_row{font-size:13px}.mmlist .mc_vtvc
.mc_vtvc_meta_block_area{height:unset}.mmlist .mc_vtvc .vtmu,.mmlist .mc_vtvc
.vtpl{bottom:8px}.cardless .mmlist .mc_vtvc{box-shadow:none}.cardless.mmlist
.mc_vtvc_center_play{width:32px;height:32px}.cardless.mmlist
.mc_vtvc_title{font-size:16px;color:unset}.cardless.mmlist
.mc_vtvc_meta_row{line-height:20px}.cardless.mmlist
.mc_vtvc_meta_pubdate{padding-bottom:2px;color:#666}.cardless.mmlist
.mc_vtvc_th,.cardless.mmlist .mc_vtvc_th .cico,.cardless.mmlist .mc_vtvc_th
div.rms_img{border-radius:6px}.cardless.mmlist .mc_vtvc_th{height:111px}.cardless.mmlist
.mc_vtvc_htc{border-radius:6px;overflow:hidden}#serpvidans.vasac.cardless{box-shadow:none}.car
dless.mmlist .mc_bc{padding:2px 8px;line-height:14px;border-radius:2px;font-weight:normal}.mmlist
.mc_vtvc: hover
.mc_vtvc_title{text-decoration:underline}.mmgrid>div{width:197px;display:inline-block;margin-right:8
px;margin-bottom:8px;box-shadow:0 0 0 1px
rgba(0,0,0,.05);position:relative;vertical-align:top;overflow:hidden;white-space:normal;border-radius:
```

```
6px}.vsarr .mmgrid>div,.vsarr1stbig .mmgrid>div{margin-right:8px;margin-bottom:8px}#serpvidansrr
.mc_vtvc .mc_vtvc_meta{height:auto}#serpvidansrr .mc_vtvc
.mc_vtvc_title{display:-webkit-box;-webkit-line-clamp:2;-webkit-box-orient:vertical}.mmgrid
.mc_tc{border:0}.vsa .mmgrid>div:nth-child(3n){margin-right:0}.vsa
.b_moreLink{padding-top:4px}#serpvidansrr
.mc_vtvc_meta_row{line-height:18px;font-size:100%;height:17px}.vsarr
.mmgrid>div:nth-child(2n){margin-right:0}#serpvidansrr .mc_vtvc .vtmu,#serpvidansrr .mc_vtvc
.vtpl{bottom:128px}.vsarr1stbig .mmgrid>div:nth-child(2){margin-right:0}#serpvidansrr.uipolish
.mc_vtvc_meta_pubdate,#serpvidansrr.uipolish .mc_vtvc_meta_channel,#serpvidansrr.uipolish
#vidans2 .b_videocard .video_metadata .video_source{color:#767676}#serpvidansrr #vidans2
.b_videocard .video_metadata_container,#serpvidansrr #vidans2 .b_videocard
.video_metadata_container
.video_metadata>h3{width:100%}@media(max-width:1362.9px){#serpvidansrr
.mmgrid>div{width:168px;height:206px}#serpvidansrr .mmgrid>div .cico,#serpvidansrr .mmgrid>div
.cico .rms_img{width:168px;height:100px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta{padding:12px}#serpvidansrr .mc_vtvc
.mc_vtvc_title{height:32px;line-height:16px;margin-bottom:16px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta_block_area{height:34px}#serpvidansrr
.mc_vtvc_meta_row{line-height:15px;font-size:13px;height:15px}#serpvidansrr
.mc_vtvc_meta_pubdate{padding-bottom:4px}#serpvidansrr .mc_vtvc .vtmu,#serpvidansrr .mc_vtvc
.vtpl{bottom:114px}#serpvidansrr #vidans2 .b_videocard .videoPlayer,#serpvidansrr #vidans2
.b_videocard .videoPlayer .cico,#serpvidansrr #vidans2 .b_videocard .videoPlayer .cico
.rms_img{width:343px!important;height:194px!important;margin-right:0}@media(max-width:1274.9p
x){#serpvidansrr .mmgrid>div{width:124px;height:164px}#serpvidansrr .mmgrid>div
.cico,#serpvidansrr .mmgrid>div .cico .rms_img{width:124px;height:76px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta{padding:8px}#serpvidansrr .mc_vtvc
.mc_vtvc_title{height:32px;line-height:16px;margin-bottom:12px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta_block_area{height:28px}#serpvidansrr
.mc_vtvc_meta_row{line-height:13px;font-size:11px;height:13px}#serpvidansrr
.mc_vtvc_meta_pubdate{padding-bottom:2px}#serpvidansrr .mc_vtvc .vtmu,#serpvidansrr .mc_vtvc
.vtpl{bottom:96px}#serpvidansrr #vidans2 .b_videocard .videoPlayer,#serpvidansrr #vidans2
.b_videocard .videoPlayer .cico,#serpvidansrr #vidans2 .b_videocard .videoPlayer .cico
.rms_img{width:256px!important;height:144px!important;margin-right:0}#serpvidansrr .maskthumb
.mc_bc_w{padding:8px 4px 4px 8px}#serpvidansrr.withsplitline
.mmgrid>div:nth-last-child(1),#serpvidansrr.withsplitline
.mmgrid>div:nth-last-child(2){margin-bottom:24px}#serpvidansrr.withsplitline
.mmgrid{border-bottom:1px solid #ecec; margin-bottom:16px}#serpvidansrr #vidans2 .b_videocard
.video_metadata{max-width:auto;padding:12px 16px}#serpvidansrr #vidans2
.b_videocard{margin-bottom:12px;box-shadow:0 0 1px rgba(0,0,0,.05),0 2px 3px
rgba(0,0,0,.1);border-radius:6px}#serpvidansrr .b_rich{padding-top:0}#serpvidansrr #vidans2
.videoPlayer{border-radius:6px 6px 0 0;overflow:hidden}#serpvidansrr #vidans2 .b_videocard
.video_metadata>h3{white-space:nowrap;overflow:hidden;text-overflow:ellipsis;-webkit-line-clamp:1;
```

```
line-height:15px;height:15px;font-size:13px;color:#000;margin-bottom:20px;font-family:"Arial",Helveti
ca,Sans-Serif;font-style:normal;display:block}#serpvidansrr.vsarr1stbig #vidans2 .b_videocard
.video_metadata .actionmenu{display:none}#serpvidansrr #vidans2 .b_videocard
.video_summary,#serpvidansrr #vidans2 .b_videocard .video_source{line-height:15px}#serpvidansrr
#vidans2 .b_videocard .videoPlayer
.vtbc{right:0}.vsb_tr_c{position:relative;width:100%;overflow:hidden;background:#1d1b28;height:583
px;margin-bottom:16px}.vsb_tr_c.tr_nh{height:294px}.vsb_tr_c .mm_vrc h2,.vsb_tr_c .mm_vrc
.see_more{display:none}.vsb_tr_c .mm_vrc>div{padding-bottom:20px}.vsb_tr_c
.vsb_tr_t{position:absolute;top:16px;left:160px;font:normal 16px/19px
"Arial",Helvetica,Sans-Serif;font-weight:700;color:#fff;z-index:1}.vsb_tr_c
.vsb_tr_t::after{width:17px;height:12px;display:inline-block;background-size:7px
12px;background-repeat:no-repeat;background-position-x:right;opacity:.7;content:""}.vsb_tr_c
.vsb_tr_t:hover::after{opacity:1}.vsb_tr_c .mm_vrc
.mc_vtvc{background-color:#585858;border-radius:6px}.vsb_tr_c .mm_vrc
.mc_vtvc_con_rc{border-radius:6px}.vsb_tr_c
.vsb_tr_chd{position:absolute;bottom:0;width:100%}.vsb_tr_c .onhov
.mc_vtvc_ban_lo{display:none}.vsb_tr_chd .mc_vtvc_tot .mc_vtvc_title{line-height:15px}.vsb_tr_chd
.mc_vtvc_tot .mc_vtvc_meta_row,.vsb_tr_chd .mc_vtvc_tot .mc_vtvc_meta_row
a{color:#dadada}.vsb_tr_chd .grad_b{top:30%;height:auto}.vsb_tr_chd .mc_vtvc_tot
.mc_vtvc_meta_row{font-size:12px;line-height:16px;height:16px}.vsb_tr_chd .mc_vtvc_tot
.meta_pd_content{display:none}.vsb_tr_chd .mc_vtvc_tot .mc_vtvc_title
strong{font-weight:500}.vsb_tr_c .slide video{object-fit:cover}.vsb_tr_c .mc_vtvc_th
.cico{width:100%;height:100%}.vsb_tr_c .vrhcac{width:647px;position:absolute;width:calc(42% -
160px);bottom:200px;margin:0 0 0 160px;height:auto;padding:0;pointer-events:auto}.vsb_tr_c
.vrhcac .mc_vtvc_title{font:normal 30px/35px
"Arial",Helvetica,Sans-Serif;font-weight:700;height:70px;overflow:hidden;color:#fff;text-overflow:ellip
sis;display:-webkit-box;-webkit-box-orient:vertical;-webkit-line-clamp:2}.vsb_tr_c .vrhcac
.mc_vtvc_meta_block_area{height:50px;margin:12px 0 0 0}.vsb_tr_c .vrhcac
.mc_vtvc_meta_row{font:normal 13px/15px "Arial",Helvetica,Sans-Serif;margin:5px 0 5px
0;color:#dadada}.vsb_tr_c .mm_vrc .b_overlay .btn.bigrounded .cr>div,.vsb_tr_c .mm_vrc .b_overlay
.btn.bigrounded
.cr>div:hover{background-image:url(/rp/qA6EopzJjTm5qQJvnXlrWGNP778.svg)}.vsb_tr_c
.vsb_tr_t::after{background-image:url(data:image/svg+xml,%3Csvg%20width%3D%22%22%20hei
ght%3D%2214%22%20viewBox%3D%220%200%207%2014%22%20fill%3D%22none%22%20xml
ns%3D%22http%3A%2F%2F%2F2000%2Fsvg%22%3E%0D%0A%20%20%20%20%3Cpath%20d
%3D%22M0.186925%201.19491L5.4643%207L0.186925%2012.8051C-0.0623082%2013.0792%2
0-0.0623082%2013.5214%200.186925%2013.7944C0.436158%2014.0685%200.838112%2014.06
85%201.08628%2013.7944L6.81334%207.49465C6.93212%207.36515%207%207.18433%207%2
07C7%206.81567%206.93212%206.63485%206.81334%206.50535L1.08628%200.205616C0.837
052%20-0.0685388%200.435097%20-0.0685388%200.186925%200.205616C-0.0612477%200.47
9772%20-0.0623082%200.92192%200.186925%201.19491Z%22%20fill%3D%22white%22%20fill-
opacity%3D%220.7%22%2F%3E%0D%0A%3C%2Fsvg%3E)}.va_tt .mm_vrc{padding:11px 2px 0
```

```
0}.va_tt .vsb_tr_t{position:relative;top:auto;left:auto;font:normal 18px/22px
"Arial",Helvetica,Sans-Serif;font-weight:400;color:#4007a2;z-index:auto}.b_dark .va_tt
.vsb_tr_t{color:#82c7ff}.va_tt .vsb_tr_tp,.va_tt .vsb_tr_tl{display:inline-block;margin-right:5px}.va_tt
.vsb_tr_chd{position:relative}.vsb_tr_c.va_tt{--va-st-padding-bottom:16px;height:auto;background-co
lor:transparent;margin-top:22px;overflow:visible;padding-bottom:var(--va-st-padding-bottom);margin-
bottom:0}.va_tt .mc_vtvc_ban_lo,.va_tt .vsb_tr_t::after,.va_tt .mc_vtvc:hover
.mc_vtvc_center_play,.va_tt .vsb_tr_chd .vt_onhv .mc_vtvc .mc_vtvc_meta{display:none}.va_tt
.mc_vtvc:hover .mc_vtvc_ht,.va_tt .mc_vtvc:hover .mc_vtvc_htb{display:table-cell}.va_tt
.mc_vtvc_htb{padding-top:50px;background:linear-gradient(360deg,rgba(0,0,0,.6)
60.35%,rgba(0,0,0,0) 100%);font-size:11px;line-height:13px}.va_tt .mc_vtvc_ht{padding:0
24px;text-shadow:0 1px 2px rgba(0,0,0,.2)}.va_tt .mc_vtvc_center_play{bottom:52px}.va_tt
.mc_vtvc:hover
.mc_vtvc_title{max-height:52px;white-space:normal;display:-webkit-box;-webkit-box-orient:vertical;-
webkit-line-clamp:4}#serpvidans .va_tt .slide{margin-right:0;vertical-align:bottom;transition:width
.2s,height .2s;border-radius:var(--mai-smtc-corner-card-default)!important}#serpvidans .va_tt
.slide:not(:first-child){margin-left:8px}#serpvidans .va_tt .mm_vrc>div{padding-bottom:0}.va_tt
.vsb_tr_chd .mc_vtvc .mc_vtvc_meta{height:auto;padding:8px;color:#ddd}.va_tt .vsb_tr_chd
.mc_vtvc_th_dock{height:72px;position:absolute;bottom:0;background:linear-gradient(360deg,rgba(
0,0,0,.55) 60.35%,rgba(0,0,0,0) 100%)}va_tt
.mc_vtvc_meta_row_channel{font-size:13px;line-height:15px;font-weight:500;color:#fff;white-space:
nowrap;overflow:hidden;text-overflow:ellipsis;margin-bottom:6px}.va_tt .vsb_tr_chd .mc_vtvc
.mc_vtvc_title{height:auto;font-size:11px;line-height:13px;color:#ddd;white-space:nowrap;overflow:hi
dden;text-overflow:ellipsis}.va_tt .slide .mc_vtvc{width:100%}.va_tt .slide video{object-fit:cover}.va_tt
.mc_vtvc_th .cico{width:100%;height:204px}.va_tt .b_overlay
.btn.bigrounded{top:auto;bottom:0;margin-bottom:93px}.va_tt .vt_onhv
.mc_vtvc_htb{padding-top:86px}.va_tt .vsb_tr_chd .mc_vtvc .vtmu,.va_tt .vsb_tr_chd .mc_vtvc
.vtpl{bottom:6px}.va_tt .vcmt_ct,.va_tt
.vcmt_ctt{display:block;margin-bottom:4px;font-size:11px}.va_tt
.vasyt::before{content:"";background:url(
ABgAAAAYCAYAAADgdz34AAABRkIEQVR4Ae2UT0rDQBjFX7QICtaoI0imAReiUNuV696jmx5A8A
alZ/AlpbdwIT2B6wqlWYkuWgnBP7jo+D7SkcmiM4kd6KYPfjNDeHlfJt8kwEYOBXqhgENOd+SGnJK
Q7JFjsr3k/jmZkg/yQn7IE7IncAwjvElmRHICskKzQMdjuOZWsrcWNS7hX+dmgQurNQzxD52YBQ6s
1maTb3UCtNsooTOzwl7THkXAYAD0+9narVyTR9aGtVoqpyRRqtdzNXIs7qCCMqpWgXodqNVsrrk
Z/ImiimMe6g4wHLqciQx6BzOXGwn93S7QaBQJF6Uy6B28Wq3y1HKSZC6uL7PAG1wFymaskg35F
Y/jX899Kfkxk6vE/JFIRrhvwXJEH8r5C8lw8kmudGyzbH037nl6Q9UnWu8i+eDnf38iamC7saVDkJG6
0Fv0CnB4lzftPhuMAAAAASUVORK5CYII=) no-repeat;background-size:18px
18px;padding-right:22px}.va_tt
.vasig::before{content:"";background:url(
ABgAAAAYCAYAAADgdz34AAAEsUIEQVR4Ad1UTWxUVRT+zn3vzbz5ozNtFQpRa2hDjC6qhKWI
CwjWTVmwMRKIMSG44W9hXIGRRKPRUMMCEySgidHEFXjxkgJEU0ISEhEaltg0bZU7bTz99689
+49nvem5SfThVt5yc3ce+ee7zvfD869wP/9o/sXm4bKxUaAfQ6bnVkt9GZNiAwiuDpCmiM4MLDZwA
KDmJNgJoKWGZO6ZZhPK0RHj44+O99GsGITuRhkzJkshwMF00ROwHM6hKzhCnjaREjFBCYmM
```



Diseño de la turbina eólica

HcDWYYmJSQKgbIQgi7XIPXiEom9RKBcf1+X1gMF3USBZQjBk2sdPLY2h+6VTgJqSdYqybyVfWP
Gw9x4FeWxKilhCY0FH9ZAI7L2yt9vP0BQ0s2dHZJ5hxB05zReObIWvQMF/Jdv+uwMrrzzMxo1g4Bs
NI29q42gK/J6SzGB8bH9zf4E/PqJMUyN/A79ZxVpMSHFwGKMmGGSGuTXIZBbvxi9BzYgm1+PK3
vOJgQe7N4I3HsEuoFOIYht6Xu+E79+dAXTX40t1iCQodkRI2yxR6xiEpNWfjBEsVmVTy6iY/d6rO5zU
RmvwCcHbQTdknIJe3i875FkHV6c5G4ul0dNyva46Dz0EqX6u0GFNPzRG1T78HsQxUqAYOQXQA
g6+/Nsj90h34TcRIASBUUWFatWJev0xDjlqcaZngKXPt9Bcb/4lxeK7wipjU+j84sdKL96AnqqKhrsGJC
cNVIKi9oUaWojKKIuo4IMecm6k6bZogj5A9ulazVU3jjGPFNGbi7/5RkqfnYQKw4NorLnU6IGC4YohF
K+nLInkVqarOB5dOAvuKgl8dakMNVyfYZBOcuAbOTIFWDsuqEO7e5+e2PsPt7BLQORY0WgVxK
kjktJvmAgg6a4xLNwqVqlk/AiKSwXJMAxJnVEghRIJfXoniPChmQ1ZBNp+W5KCDlgYzmdgVqlgpqW
kL91h8xoGRrbkwgNfgCrNU52RRS2YvnzsbneJ67kGQvWbeSEktVHE9+ew3y4nlKIYIU0NrISibSj/6x
9yk7fByZj98lff68KBD7tmxJjjSPHU8sAaUWUUQBPFaK22uQTf9DIPfYLEy1NtZ1SaVD6PAP1A+9Dj
09BmfbNjhbN0NPjqOxfzfz/G0my2Onf1WCyDMzYIFzeQVWscHsGtJz15N1astmNL87Gbcna32bGqff
Ak5KbCQ5BdKzTYvEV8CXi7fhqSTG3BiXA02i+x7puwRcikgloOtXObp5idKDr4HVAsLJi8SzY5y8yyH
YhLGLCuzLk9GzBqkNg0hv34noh5/YTFwnljdOdzmC8JY8/E+YDFN95CByLx+Gu3U/XCx24PK/yRd
dvQx/+D2pWSRvdyhg1s12gg59ChI9mDKW1MzAO3cE1rWvobr6oHKPin4N8QocCUAKT0RIbGZno
Cd+I3NN8lwicqRdTSQqotNtBMgFw6qQH1JufoDcrNz7tPRzBfz3JehZl8BifODDeHUZNXAjJFRtUNV
ipGyilNiWkmse6MvGjoaxnNTyN0NFV7I72S3sstxML9nxBRL7I00c+my8BhmvwqZRJVovMKoStCDg
QsQV+xbNq1OmYoZLo6PzeGi+fwFJbz1lhJBeawAAAABJRU5ErkJggg==)

```
no-repeat;background-size:18px 18px;padding-right:22px}.va_tt
.vastt::before{content:"";background:url(
AAwAAAAMCAYAAABWdVznAAAA90IEQVR4AZWQu2sCQRDGJyYHCQdqPEKqSHr7NOZFyvQJi
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OJO/sLL8cH8ps1ernCdYCueCoJm03iAyaLGWa3SzstDFg028BoBvnfdw4IW+r+hTgtLVUX67ZcBcjC
KV0HEI/h0epT2cgT8IBAljyt+KNNsHMLU3yhUUebH+xGwWx+JRjOKdutUk+53wZVCPGLGvnj/f2ZCF
chXh6RjDwYS1dnFLHo8XvZIMNVuE7PyD1SScATcHyqhuNevQt8H62BZHiaf6ZtXqegAAAABJRU5
ErkJggg==) no-repeat;background-size:contain;padding-right:20px}.va_tt
.vasfb::before{content:"";background:url(/rp/zvtkyPveEhrXqHA-euzAa983fpQ.png)
no-repeat;background-size:contain;padding-right:20px}.vcmt_ckt.vasyt::before{background-size:15p
x 15px;padding-right:19px}.vcmt_ckt.vasig::before{background-size:15px
15px;padding-right:19px}.vcmt_ckt.vastt::before{background-size:contain;padding-right:17px}.vcmt_c
tt.vasfb::before{padding-right:17px}.mm_vrc{padding:24px 32px}@media screen and
(max-width:1022px){.mm_vrc{margin:0}}@media screen and
(max-width:766px){.mm_vrc{margin:0}}.mm_vrcc{padding:0 0 32px 0;margin-bottom:0}.mm_vrcc
h2{padding-bottom:20px}.mm_vrcc h2 a{font-family:"Segoe
UI",Arial,Helvetica;font-size:20px;color:#000;line-height:18px}.mm_vrcc .b_overlay
.btn{z-index:3}.mm_vrcc .vrhc{z-index:2}.mm_vrcc .mc_vtvc_th .cico{padding-bottom:0}#dg_c
.mm_vrc,#dg_c .mm_vrcc{padding:8px 16px 0 16px}#dg_c .mm_vrcc .mc_vtvc{width:100%}#dg_c
.mm_vrcc a: hover{text-decoration:underline}.isvctrl .mm_vrcc
.slide{overflow:visible}.mm_vrc{padding:16px 100px 0 160px}.mm_vrc .b_overlay
.btn.bigrounded.next{right:-44px}.mm_vrc .b_overlay .btn.bigrounded.prev{left:-44px}.mm_vrc
.b_overlay .btn.bigrounded .cr>div,.mm_vrc .b_overlay .btn.bigrounded
.cr>div: hover{box-shadow:none;border-radius:0;margin:0;background-position:16px
```

```
9px;background-size:12px
22px;background-color:transparent;background-image:url(/rp/rKVnxf6wkbx10DBa2Au3IVC5Sog.svg)
}.mm_vrc .b_overlay .btn.bigrounded .cr>div{opacity:.7}.mm_vrc .b_overlay .btn.bigrounded
.cr>div:hover{opacity:1}.mm_vrc h2
a{font-family:"Arial",Helvetica,Sans-Serif;font-style:normal;font-weight:500;color:#111}.mm_vrc
h2{display:inline-block;padding-bottom:16px}.mm_vrc>div{position:relative;padding-bottom:32px}.m
m_vrc .see_more{position:absolute;right:0;top:3px}.mm_vrc
.see_more>a{font-family:"Arial",Helvetica,Sans-Serif;font-style:normal;font-weight:normal;font-size:1
6px;line-height:18px;color:#000}#vsb_more{padding:16px 0 4px 160px;color:#111}#vsb_vid_cat
.mm_vrc h2
a::after{display:inline-block;margin-left:12px;content:"";background-image:url(/rp/rKVnxf6wkbx10DBa
2Au3IVC5Sog.svg);background-size:7px 14px;width:7px;height:14px;opacity:.7}#vsb_vid_cat
.mm_vrc h2 a:hover::after{opacity:1}.mm_vrc
.mm_vrc_sub{display:inline-block;margin-left:24px}.mm_vrc
.b_hList{position:absolute;height:20px;top:3px;overflow:hidden}.mm_vrc
.b_hList>li{padding-right:24px;padding-bottom:0}.mm_vrc .b_hList a{font:normal 13px/20px
"Arial",Helvetica,Sans-Serif;color:#111}.mm_vrc .mc_vtvc_tot .mmsts
.mc_vtvc_meta{display:none}.vsb_tr_chd .mc_vtvc .mc_vtvc_meta { padding: 10px 10px 10px 10px;
} .vsb_tr_chd .mc_vtvc .mc_vtvc_meta_w { height: 190px; margin-top: -0px; } .vsb_tr_chd .mc_vtvc
.mc_vtvc_title { height: 150px; line-height: 15px; margin-bottom: 0px; margin-top: 0px; } .vsb_tr_chd
.mc_vtvc .mc_vtvc_meta_block_area { height: 20px; } .vsb_tr_chd .mc_vtvc .vtmu, .vsb_tr_chd
.mc_vtvc .vtpl { bottom: 198px; } .vsb_tr_chd .mc_vtvc_th_dock { height: 190px; } .vsb_tr_chd
.mc_vtvc_th_dock { height: 60px; } .tr_bt .mc_vtvc_th
img{height:auto;width:100%}.grad_b{position:absolute;width:100%;top:30%;bottom:0%;background:l
inear-gradient(180deg,rgba(48,44,39,0) 0%,#302c27 100%)}
.mc_vtvc_th_dock{width:100%;background:#302c27}.mc_vtvc_tot
.mc_vtvc_th{background-color:transparent}.vsadc .grad_b{top:81.8%}.mc_vtvc_tot
.mc_vtvc_meta{line-height:15px;position:absolute;bottom:0%;background:transparent}.mc_vtvc_tot
.mc_vtvc_meta_row{line-height:16px;font-size:12px;height:16px}.mc_vtvc_tot
.mc_vtvc_meta_row,.mc_vtvc_tot .mc_vtvc_meta_row a{color:#dadada}.mc_vtvc_tot
.mc_vtvc_title,.mc_vtvc_tot .mc_vtvc_title a{color:#fff}.vsadc .mc_vtvc_tot
.mc_vtvc_title{line-height:18px}.vsadc .mc_vtvc_tot .mc_vtvc_meta_row,.vsadc .mc_vtvc_tot
.mc_vtvc_meta_row a{color:rgba(255,255,255,.7)}.vsadc
.mc_vtvc_meta_pubdate{padding-bottom:2px}.vtdc_default{background:#302c27}.vtdc_default_g{ba
ckground:linear-gradient(180deg,rgba(48,2,39,0) 0%,#302c27 100%)}
.vtvc_black{background:#111}.vtvc_black_g{background:linear-gradient(180deg,rgba(17,17,
17,0) 0%,#111 100%)}
.vtvc_blue{background:#3a4e74}.vtvc_blue_g{background:linear-gradient(180deg,rgba(58,7
8,116,0) 0%,#3a4e74 100%)}
.vtvc_brown{background:#69423d}.vtvc_brown_g{background:linear-gradient(180deg,rgba(1
05,66,61,0) 0%,#69423d 100%)}
.vtvc_grey{background:#464646}.vtvc_grey_g{background:linear-gradient(180deg,rgba(70,7
```

```

0,70,0) 0%,#464646
100%}}.vtdc_green{background:#324f32}.vtdc_green_g{background:linear-gradient(180deg,rgba(50
,79,50,0) 0%,#324f32
100%}}.vtdc_orange{background:#8c5400}.vtdc_orange_g{background:linear-gradient(180deg,rgba
(140,84,0,0) 0%,#8c5400
100%}}.vtdc_pink{background:#a3394b}.vtdc_pink_g{background:linear-gradient(180deg,rgba(163,
57,75,0) 0%,#a3394b
100%}}.vtdc_purple{background:#774077}.vtdc_purple_g{background:linear-gradient(180deg,rgba(1
19,64,119,0) 0%,#774077
100%}}.vtdc_red{background:#811515}.vtdc_red_g{background:linear-gradient(180deg,rgba(129,21
,21,0) 0%,#811515
100%}}.vtdc_white{background:#464646}.vtdc_white_g{background:linear-gradient(180deg,rgba(70,
70,70,0) 0%,#464646
100%}}.vtdc_yellow{background:#755b00}.vtdc_yellow_g{background:linear-gradient(180deg,rgba(1
17,91,0,0) 0%,#755b00
100%}}.vtdc_teal{background:#256868}.vtdc_teal_g{background:linear-gradient(180deg,rgba(37,10
4,104,0) 0%,#256868
100%}}.cipt,.cipg,.cipa,.cipl,.ciptr,.ciplr{display:inline-block}.cipa,.cipl,.ciplr{cursor:pointer}.vab{vertica
l-align:bottom}.vam{vertical-align:middle}.vat{vertical-align:top}.vabl{vertical-align:baseline}.vatt{verti
cal-align:text-top;border-radius:0}.vatb{vertical-align:text-bottom} evronDown12,
evronUp12{background:url(/rp/QKITrqL25sGDqfRYQjkMWJWDeG8.png)
no-repeat;background-size:494px 58px;width:12px;height:12px}
evronDown12{background-position:-372px 0} evronUp12{background-position:-372px
-14px}@media(prefers-color-scheme:dark){#bpage.b_med
evronDown12{background-position:-386px 0}#bpage.b_med
evronUp12{background-position:-386px -14px}}#bpage.b_drk
evronDown12{background-position:-386px 0}#bpage.b_drk evronUp12{background-position:-386px
-14px}.cipt,.cipl{margin-right:10px}.cipt .cico,.cipl .cico,.ciptr .cico,.ciplr
.cico{border-radius:0}.b_action>.cipt,.b_action>.cipl{float:left}.ciptr,.ciplr{margin-left:10px}.sw_play{h
eight:16px;width:16px}:not(.dc_aud_wrp)>.sw_play{background-image:url(
VBORw0KGgoAAAANSUUhEUgAAACAAAAAgCAMAAABEpIrGAAAAaVBMVEUAAAAAD58AFaQA
E6UAFKUAE6QAFKUAEqYAD58AE6QAE6UAFKQAEqUAD6QAE6MAE6QAD6cAE6QAFaQAFKQ
AEqQAFKUAEqQAFKUAEqIAFKMAEQMAE6MAD58AE6UAE6UAE6IAFKYAFKYAE6MaDJ//AAAAI
3RSTIMAEGCfz+//XyCQj79vMEDfIKAWoK/vYL9gcHDPMM9QkK+fznHYYSkAAAEVSURBVHgBdZ
MFkuwwEEPVk/ULx8nSMN7/jh/X1dUDKgjpYAIZavqLUF6q2rTo5o24aoaRVkH9MNNokk1DD3QW8
AzV7M/zAtIDNGbyqKA5k9+d58OkKPukZFjmU0/0Qf6PdeXGVcDu3wBQphcXpxH+vlioyhtyHRwLrW
QeICCEzHyZvunlBmLlmo0WtsEQQnZU2jMFQwg5cFTCgiGEGF8CBUMMGReGdCpvng/xaT7Ennc
3RFyaOMZIOu7LXLf2Q8GL1tSyROMGx3/O0aSzH1bEyznOUKYZcC/C+XVh2nJT6Yk+yd7giz3wV/
LstS8NfvgTPCN0qVkofAk8A+thMsnehzXQmqLmBVdqHXfZ97JPKPa3ldP6DeOGDIAP873EAAAAA
EIFTkSuQmCC);background-size:16px 16px}#slideexp0_9D579A .slide { width: 94px; margin-right:
20px; }#slideexp0_9D579Ac .b_slidebar .slide { border-radius: 6px; }#slideexp0_9D579A
.slide:last-child { margin-right: 1px; }.b_sldrp .slide{box-shadow:0 0 0 1px rgba(0,0,0,.05)}.b_cards

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Diseño de la turbina eólica

.cico,.b_sidebar .slide .cico{border-radius:0}#b_content .b_wpt_container
.l_ecrd_imgsetgrid.l_ecrd_imgsetgrid_actionlink .l_ecrd_imgsetgrid_item
.cico{border-radius:0!important}.b_sldr .slide.see_more{box-shadow:0 0 0 rgba(0,0,0,0)}.b_sldr
.slide.see_more .carousel_seemore{border:0}.b_sldr .slide.see_more:hover{box-shadow:0 0 0
rgba(0,0,0,0)}#slideexp0_9D579Ac { margin: -4px; } #slideexp0_9D579Ac .b_viewport { padding:
4px 1px 4px 1px; margin: 0 3px; }#slideexp0_9D579Ac .b_sidebar .slide[data-mini="1"] {
display:none; }Vídeos de Diseño de La turbina eólicaVer vídeo12:13This is how wind turbines are
built MegaEstructura1,5K visualizacionesHace 5 mesesVer vídeo completoVer vídeo0:24FREE
ENERGY In Your HOME #engineering #electricity Teslex30,1K visualizacionesHace 4 mesesVer
vídeo18:32Is a DIY wind turbine worth it? Real data Borja - Academia Energía Solar16,9K
visualizacionesHace 1 mesVer vídeo0:44They create a turbine made of recyclable materials that
transforms wind into electricity. Inspenet3,4K visualizacionesHace 5 mesesVer vídeo
completoVídeos brevesdiseño de la turbina eólica00:24 00:44 00:59 01:22 00:35TikTok00:21 Ver
todoVer vídeo completoArchivo Digital UPMDISEÑO Y CONSTRUCCIÓN DE UNA MINI-TURBINA
EÓLICADISEÑO Y CONSTRUCCIÓN DE UNA MINI-TURBINA EÓLICA Realizado por Miguel Suau
de Castro Dirigido por Carlos Veganzones Nicolás

ha diseñado para colocarse en el exterior y generar energía eólica que se transformará en energía eléctrica para utilizarla en un aula del Instituto Tecnológico de Matamoros.

La turbina de viento de Darrieus es un tipo de turbina de viento de eje vertical (VAWT) utilizada para generar electricidad de la energía llevada por el viento.

Además, el objetivo principal de este proyecto es el de diseñar y construir de forma práctica una turbina eólica capaz de generar energía para encender la mayor cantidad posible de bombillos de bajo

Para modelar y simular una turbina eólica con éxito, hay que seguir un proceso de diseño detallado esto incluye determinar el tamaño y la forma de las palas del rotor, calcular el par ...

Descubre el funcionamiento de las turbinas eólicas, sus partes y tipos. Aprende sobre la energía eólica y cómo aprovecharla de manera eficiente.

Explore los últimos avances en tecnología de turbinas eólicas, incluidas palas más grandes, sistemas de accionamiento directo e innovaciones en energía eólica marina.

DISEÑO Y CONSTRUCCIÓN DE UNA MINI-TURBINA EÓLICA Realizado por Miguel Suau de Castro Dirigido por Carlos Veganzones Nicolás

Se destaca la importancia de las turbinas eólicas como una solución viable y sostenible para la generación de energía. El estudio incluye la metodología de fabricación, resultados obtenidos y

Diseño de la turbina eólica

