AKERS

UNLOCKING INNOVATION

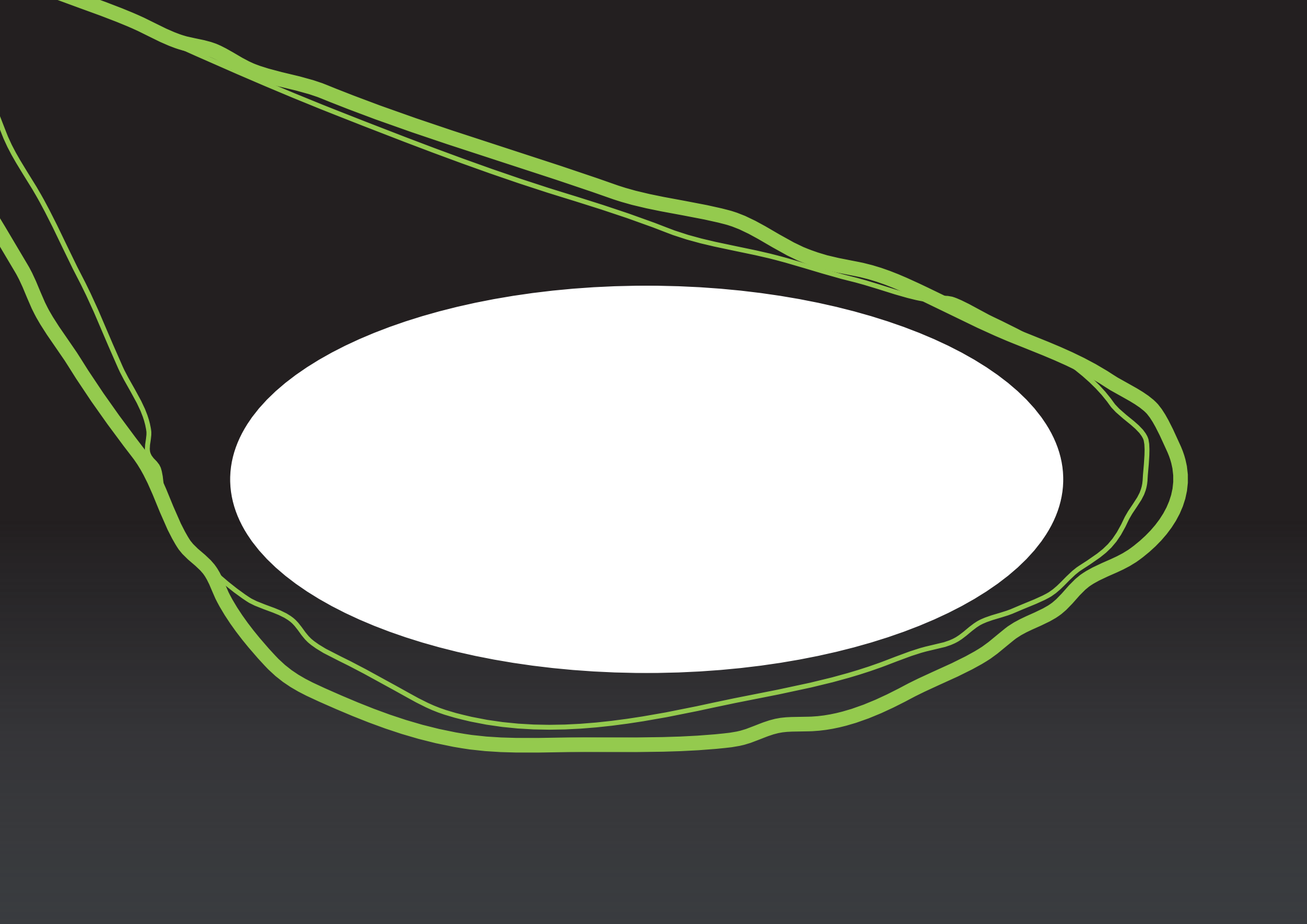
A systems approach to

CONTENTS

THE CHALLENGE

Whether it is about climate change, human health or sustainable industries, we are in the decisive decade to make progress. Deep tech chemistry can transform the way we live today and help secure a cleaner and better future.

f gxg nq r o gpv"vk o g nk pgu."xgpvwtgu"ecppqv"'0p f "uwkvcd ng"hcek nkvkgu" vq"ectt{"qwv"v j g"tgugcte j "qt"uec g/w r "qh"v j gug"vge j pq q i kgu0"



Convenience doesn’t have to cost the world

Plastic pollution has become one of the biggest threats to our environment and our future.

Rncuvke"kp"v j g"qegcp"ku"gz r gevg f "vq"qwv y gk i j "0u j "d{"4272."

kp"r ncuvke."cp f "qxgt"; { - l’ - l’ - N ɹ χ ß v l ȳ γ ɔ ӟ в ₦"

Eliminate. Isolate. Cure.

MediSieve's Magnetic Blood Filtration technology aims to revolutionise medical treatments, especially for diseases where conventional therapies fall short.

V j ku"vge j pqnq i {"c f f tguugu"v j g"etkvkecn"e j cnngp i g"qh"tg o qxkp i "u r gek"0e" eq o rqpgpvu"htq o "v j g"dnqq f uvtgc o "v j cv"ewttgpv" o gv j q f u"ecppqv" ghhgevkxgn{"vct i gv0"V j ku"kuuwg"ku" r ctvkewnctn{" r tqpqwpeg f "kp"C f gpq" Cuuqekcvg f "Xktwu"*CCX+" I gpg"V j gtc rkgu." y j gtg"w r "vq"82 ' "qh" r qvgpvkcn" r cvkgpvu" Y "cdqwv" : : 2.222" r gq r ng" Y "ctg"kpgnk i kdng"hqt"c"vtgcv o gpv"v j cv" o c{"

Og f kUkgxg"qhhgtu"c" r tgekug"uqnwvkqp"hqt"vtgcvkp i "xctkqwu"dnqq f dqtpg" eqp f kvkqpu"d{" f ktgevn{"tg o qxkp i " j ct o hwn"uwduvcpegu"htq o "v j g" dnqq f uvtgc o 0"Kvu"cdkn kv{"vq"vct i gv"c" y k f g"tcp i g"qh"uwduvcpegu" o cmgu"kv"c" r q y gthwn"vqqn"kp" o g f kekpg." r tq o kukp i "dgvvgt" r cvkgpv"qwveq o gu."tg f wekp i " j gcnv j "kpgswkvkgu."cp f " r cxkp i "v j g" y c{"hqt" o qtg" r gtuqpcnkug f "cp f "ghhgevkxg"

gaussion

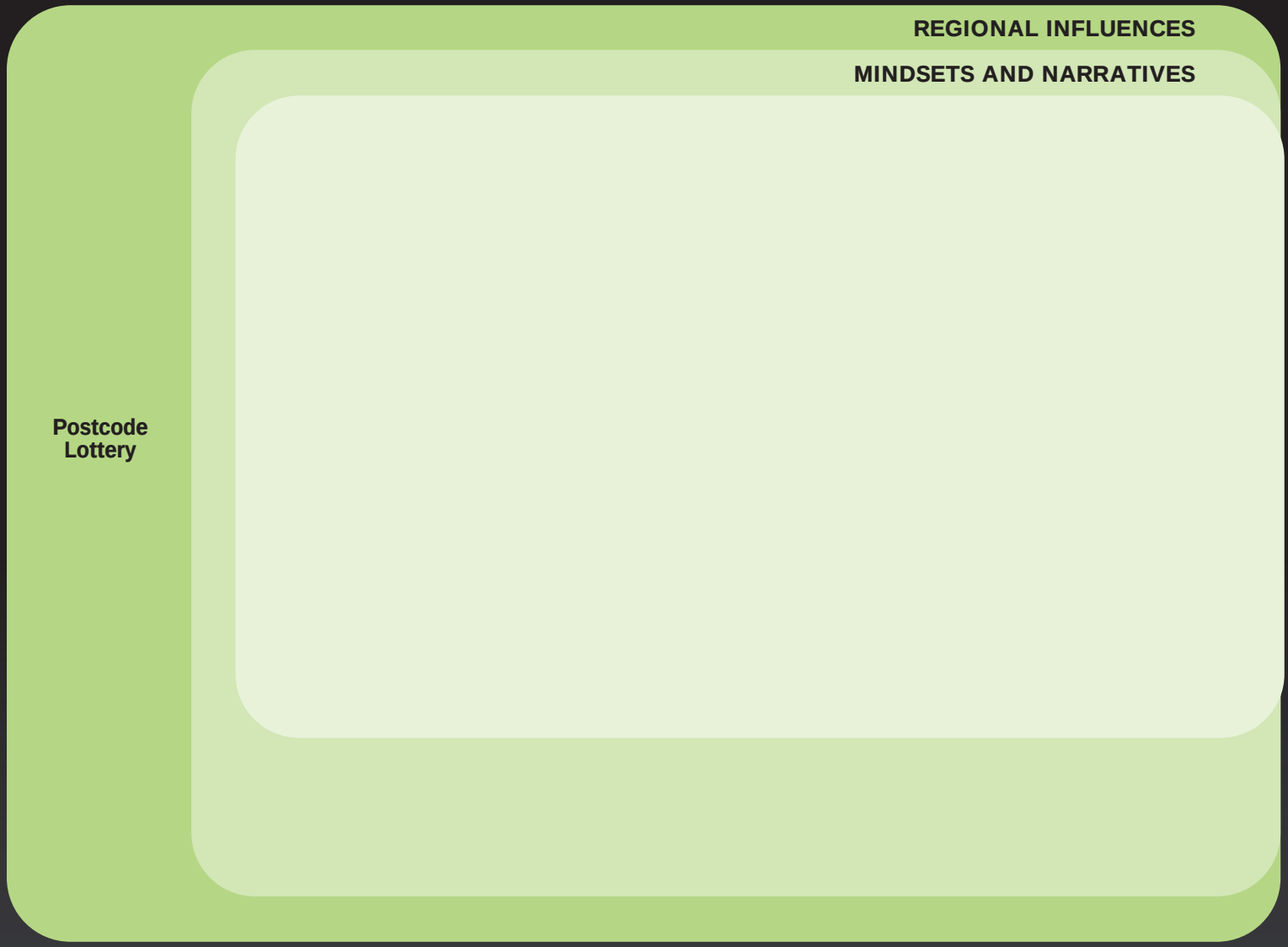
Making batteries faster

Electric transport is key to a low-Carbon economy, but range anxiety, long charging times and battery degradation remain issues. Gaussion's fast-charge technology - MagLiB™ - is changing the EV charging game.

Kvu"swkem"e j ct i kp i "vge j pqnq i {"k o rtqxgu"dcvvgt{"rgthqt o cpeg"d{" wvknkukp i "cp"gzvgtpcn" o c i pgvke"Ognf" fwtkp i "e j ct i g"cp f" fkue j ct i g"e{engu0" Cf fkvkqpcnn{."v j g" o c i pgvke"Ognf "tg fwegu"egnn" fgvgtkqtcvkqp." rtqnqp i kp i " dcvvgt{"nkhg0"Oc i NkD· "ecp"eq o rng o gpv"cp{"dcvvgt{"cp f"k o rtqxgu" chhqtf cdknkv{."kpetgcugu"dcvvgt{"eqpxgpkgpeg."cp f"tg fwegu"g o dg f fg f"

V j ku" j qnfu" j w i g" rqvgpvkcn"hqt"v j g" y k fgurtgcf"c fq rvkqp"qh"gngevtke"

WHAT IS THE SYSTEM TELLING US?



WHAT IS THE SYSTEM TELLING US?

Development of lab space requires investment – and we tend to see signi f cantly less in space that is suitable for deep tech chemistry ventures.

V j ku"ku" o quvn{" f tkxgp"d{"c"ncem"qh"xcnwg"ecug0"E j g o kuvt{"ncdu" ctg"gz r gpukxg"vq"dqvj "dwkn f "cp f "q r gtcvg0"V j ku"ku"c"tguwnv"qh" u r gek"Oe"cp f "eq o rngz"u r ceg"tgswktg o gpvu"*uwe j "cu" o qtg" tqdwuv"ckt" j cp f nkp i "tgswktg o gpvu."qt" j k i j gt"u r ge¼ f " y gv"ncd" ctgcu+."c" j k i j "equv"qh" o cvgtkcnu."cp f "v j g"pgg f "hqt" j k i j /u r ge"

V j g"xcnwg"ecug"ku"hwtv j gt"wpuw r r qtvg f "d{"c"ncem"qh"tqdwuv"

c r rnkg f " o gcpu"v j gtg"ku"nkvvng"gxk f gpeg"qh"c"etkvkecn" o cuu"qh" f g o cp f "hqt"e j g o kuvt{"ncd"u r ceg0"Pq" f gvcknq f " o c r rkp i "qh"

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vq"e j cnngp i gu"ctqwp f " i gpgtcn"wp f gtuvcp f kp i "qh"pgg f u." hwp f kp i ."c f gswcvg" r qnkekgu."cp f "kpxguvqt"eqp"Of gpeg0

Fgxgmqr ogpv"qh"ncd"urceg"tgswktgu"kpxguv ogpv"τ"cpf"**we tend to see signi f cantly less investment go into developing space suitable for deep tech chemistry ventures**

lack of value case0"Ejgokuvt{"ncdu"ctg"gzrgpukxg"

DYNAMIC 2: COMPLEX PLANNING ENVIRONMENT

E j g o kuvt{"ncd"u r ceg"ukvu"y kv j kp"c"**complex planning landscape**0"Uvcp f ct f "qh"Oeg"vq"ncd"eqpxgtukqpu"ctg"nguu" xkcdng"hqt"e j g o kuvt{."**air handling and net zero requirements introduce additional barriers**
r tqeguu"cp f "uq o g"hceg"**local challenges around resources**

lack of planners available to deal with science applications
kp"j k i j "f g o cp f "ctgcu ţ"c"e j cngp i g"hqt"f gxgnq r gtu"cp f " r gt r gvwcvkp i "hcevqt"kp"v j g"uw r r n{1f g o cp f "k o dcncpeg0"

Eqw r ngf "y kv j "v j g"y gcmgt"xcnwg"ecug"hqt"e j g o kuvt{"ncd"u r ceg." f gxgnq r gtu"ctg" o qtg"nkmgn{"vq"hcxqwt"qh"Oeg1"tguk f gpvkcn"u r ceg" qt" o qtg"Ogzkdng"ncdqtcvqtkgu0

DYNAMIC 3: CHEMISTRY SPECIFIC REQUIREMENTS

The application of deep tech chemistry is diverse

ejgokuvt{"ncd"urceg"ku"vjgtghqtg"vq"tgvtq"0v"qp"c"ecug/d{/ecug"dcuku."c"nguu"gh"0ekgpv"cpf"oqtg"gzrgpukxg"ogvjqf"hqt"dqvj"qrgtcvqtu"cpf"wugtu0"

Vjku"rgtegrvkqp"qh"xctkcdknkv{"ogcpu"**there is no obvious critical mass of ventures with the 'same' chemistry lab requirements**

dg"nguu"'0gzkdng"cpf"wpuwkvcdng"hqt"qvjgt"vgpcpvu"qpeg"c"

less lab space has chemistry designed in from the start and in many instances is not developed at all

DYNAMIC 4: STRATEGIC NARRATIVES

Fgg r "vge j "e j g o kuvt{"ecp"dg"hqwp f "kp" f kxgtug"c r r nkecvkqpu." j cu"v j g"cdknkv{"vq"c f f tguu"c"xctkgv{"qh" r tqdng o u"cp f "qhvgp" **the underpinning nature of the deep tech technology renders chemistry invisible in the f nal product or solution**

V j ku"ncem"qh"vcp i kdng" r tgugpeg" r tq r c i cvgu"vq"dtqc f gt" **inability to make the value case for deep tech chemistry technologies**"cp f "v j gtghqtg" i gvu"

V j g"ghhgevu"qh"v j ku"ctg"uggp"kp"**limited government intervention in the form of supportive policies and incentives to encourage investment into chemistry lab space**0"Kv"cnuq"gzcegtdcvgu"v j g"ncem"qh"eqp"0f gpeg"kp"v j g"

y j ke j "eqwnf "dqquv"v j ku"eqp"0f gpeg"ţ"hqt"gzc o rng."u r gek"0e"

DYNAMIC 5: THE POSTCODE LOTTERY

For access to chemistry labs, it really matters where you are.

V j g" i gq i tc r jkecn"nqecvkqp"qh"c" f gg r "vge j "e j g o kuvt{"xgpvwtg"ecp"gkv j gt"c o rnkh{"qt"gcug"v j g"ghhgevu" qh"v j g" f {pc o keu" y g" j cxg"qwvnkpg f "uq"hct"cp f " j cu"c" f ktgev"k o r cev"qp"v j g"cxckncdknkv{"qh"kpxguv o gpv." ceeguu"vq"vcngpv."cp f "chhqt f cdknkv{"qh"ncd"u r ceg0"

Xgpvwtgu"nqecvg f "kp"cp"guvcdnku j g f "uekgpvk"0e"enwuvgt"ţ"uwe j "cu"v j g" I qn f gp"Vtkcp i ng"*Nqp f qp." Qzhqt f ."Ec o dtk f i g+"ţ"ctg"kp"c" o we j " o qtg"hcxqwtcdng"gpxktqp o gpv"hqt"u r kppkp i "qwv0

More investment flows here and there's a larger talent pool

qt"wpkxgtukvkgu0" J q y gxgt."v j ku"eq o gu"cv"c"equv"ţ"vq"xgpvwtgu." f gxgnq r gtu"cp f "v j g"tg i kqp"kvugnh0"

Waiting lists are lengthy, cost per square foot is high and well-connected space is limited

kp"Ec o dtk f i g."v j gtg"ctg"e j cnngp i gu"ctqwp f "cxckncdknkv{"qh" y cvgt0"Cu"enwuvgtu" i tq y ."cp f " f g o cp f "hqt"

In areas with less established clusters and supporting infrastructure, there is a more uneven spread of lab space0"Ncd"u r ceg" o c{"dg"e j gc r gt."dwv"v j g"vtc f g/qhh"hqt"xgpvwtgu"ku"nguu" r qvgpvkcn"hqt" tckukp i "uk i pk"0ecpv"kpxguv o gpv."c"u o cnngt"vcngpv" r qqn."cp f "uvknn."v j ku"u r ceg"ku"wpnkmgn{"vq"dg" f guk i pg f " y kv j "e j g o kuvt{"kp" o kp f "htq o "v j g"uvctv0"

Geography must be considered in any intervention0"C"WM/ y k f g."qpg/uk|g"0vu"cnn"c r r tqce j " y knn" pqv" o cnng"v j g"e j cp i g"tgswktg f "vq"c f f tguu"v j g"ghhgevu"qh"tg i kqpcnkv{0

We have identi f ed eight ‘Windows of Opportunity’ across the chemistry lab system which have the potential to supercharge the

WHAT NEXT?

We are launching the More ChemLabs initiative to catalyse system level change and address the shortage of chemistry labs for startups.

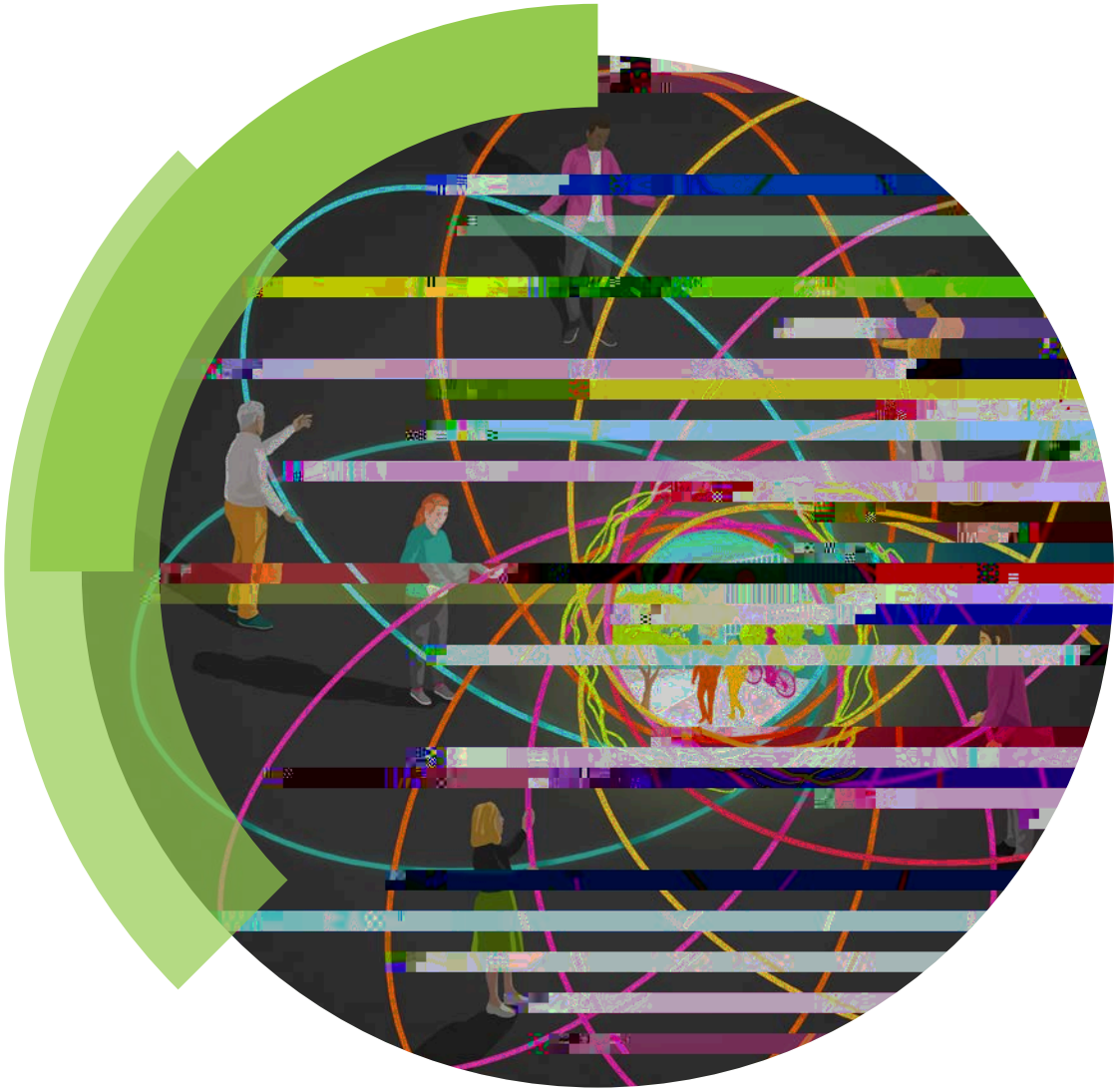
Y g" y km"ngc f "c"pgv y qtm"qh"e j cp i g"c i gpvu"htq o "xctkqwu"ugevqtu" vq"ugk|g"v j g" y kp f q y u"qh"q r r qtvwpkv{"cp f " f gxgnq r "c" r qtvhqnkq"qh"

Y g"pgg f " r gq r ng" y j q"ctg"kppqxcvkp i "kp"v j g" f gnkxgt{"qh"ncd"u r ceg" v j cv" y qtmu"hqt" f gg r "vge j "e j g o kuvt{." y j q"ctg"c f xqecvkp i "hqt"

kpxqnxg"u j ctkp i "uvqtkgu"qh"e j cp i g."dwkn f kp i "c"tqdwuv"gxk f gpeg" dcug"cp f " f gxgnq r kp i "u r gek"0e"uqnwvkqpu0

Is this you?

Hqt"kphqt o cvkqp"qp" j q y "vq" i gv"kpxqnxg f .
visit: rsc.li/morechemlabs



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